THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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For the Farmers' Cabinet.

Magnesian Lime, No. 2.

At page 276 of vol. 5 of the Farmers' Cabinet, in a short extract from the "General Report of Scotland," it is stated that "it had been long known to farmers in the neighbourhood of Doncaster, England, that lime made from a certain stone, and applied to land, often injured the crops considerably. Mr. Tenant, in making a set of experiments upon this peculiar calcareous substance, found that it contained magnesia, and on mixing some calcined magnesia with soil, in which he sowed different seeds, he found that they either died or vegetated in a very imperfect manner, and the plants were never healthy; and with great justice and ingenuity he referred the bad effects of this peculiar limestone to the magnesian earth it contained. Yet it is advantageously employed in small quantities, seldom more than 25 or 30 bushels per acre."

Mr. Tenant's account of his experiments first appeared, we believe, in the Philosophical Transactions of England, and we know not that it ever appeared in any other form. It is certainly not in very general circulation. We cannot say, therefore, how extensive, varied and accurate the experiments may have been. But it is from such vague, loose and indefinite accounts as the above, that we are called upon to swallow the whole doctrine and all its consequences—head, horns and all, without making a wry face, and that too in opposition to a host of proofs of its utter fallacy, derived from one of the most extensive and decisive experiments ever made in agriculture.

But leaving Mr. Tenant's account of the matter out of view for the present, let us examine that which the advocates of the doctrine it was intended to support have vouchsafed to give us. They tell us that he mixed some calcined magnesia with the soil (but they do not tell us how much), and found that seeds sown in it either did not come up at all, or if they did, did not grow vigorously. Well, we grant that they did not. What then? Does it necessarily follow that magnesia is destructive to vegetation? Suppose he had mixed pure lime, or even pounded chalk, with his earth, everybody knows, or may easily ascertain, that if an undue proportion of either were used, his plants would have withered and died, the same as they did in the magnesian mixture. Would it not then be just as philosophical to assert that lime was in the latter case injurious to vegetation, as that magnesia was in the former?

Here then appears but a single unvaried experiment, with an attempt to build a very important theory on the narrowest possible foundation of fact. And never has a hastily-formed or unsound theory been more signally overthrown by subsequent experience. Instead, therefore, of saying that it was just and ingenuous to refer the injurious effects of the lime in question to magnesia, we should rather say that it was a hasty and unjust conclusion, and would never have been put forth by one acting under correct views of the requirements of the inductive philosophy.

But it is not against the possibility of the injurious nature of the Doncaster limestone, or of the correctness of Mr. Tenant's experiments, for we care not a straw whether they are correct or otherwise; but it is against the broad doctrine of the deleterious nature of magnesian lime in all its forms, attempted to be deduced from them, that we contend. It is against the senseless repetition of this doctrine, unsupported as it is by any subsequent experiments, by every unfledged agricultural essayist, or every enthusiastic builder of plausible theories, that we enter our protest. Agricultural publications are extending in circulation every day, and are beginning to be looked up to as sources of correct information. It is of importance, therefore, that theories diametrically opposed to every day's experience should not be reiterated in them again and again, without attempts being made to show their utter fallacy. Lime, in some parts of our country, is a very costly article for manure, owing to the expense of carriage. A young farmer in one of these has a poor exhausted farm. He sees in the Cabinet and other publications lime highly recommended as a manure, but he also sees essays profess-

edly written by practical men, wherein it is repeatedly set forth that all magnesian lime is deleterious to vegetation, and that each one whose liming has not answered his expectation, refers his disappointment to this cause. He takes up the reports of the different geological surveys lately made in this country, and learns from them, as well as the pages of the Cabinet, that a very large proportion of the limestones of our country are magnesian, and many of them highly so. Would not such a person probably reason thus:—I am very poor as well as my land. This lime is a very expensive thing. I shall probably get of this bad kind, as I am no judge of the article. I shall lay out my last dollar, and probably make my land even worse than it now is. Would he be likely to lime under such views? Would he not more probably toil on from year to year as poor as he began—still afraid to apply the great renovator to his soil? To such, however, we would repeat, what we have already said, that all the benefit which has been derived from lime as a manure to Pennsylvania, and to a great part of New Jersey and Delaware, has been derived from magnesian lime. This is fact and experience; the other is but theory based on a narrow foundation. Then let not this bugbear of magnesian lime, set up by those who seem to be profoundly ignorant of what is passing around them, deter you from following the bright example set you by the enlightened farmers of south-eastern Pennsylvania. Put on your magnesian lime in such quantities as their experience may have pointed out. Shut your ears against this senseless clamour, and after you have faithfully done your part, trust the rest to the silent, unseen, mysterious operation of those laws which govern the material world, with the full assurance that you will reap a rich reward.

S. Lewis.

Dec. 28, 1841.

Farming.

The operations on a farm require incessant toil; the corporeal machine must be in constant motion. It therefore behooves farmers to *work head-work*. How many of us can see, after performing an important agricultural operation, that with a little study, we might have accomplished it with much less labour. We are too apt to misapply our strength, and waste our energies in some favourite scheme of redeeming our soil, which a little mental exertion would have rendered a light and healthful exercise.

There are several ways in which almost every farming operation can be performed. The old road, the turnpike, and the rail-road; some will not travel the turnpike on account of the *toll*, and many prefer the old road because they are better acquainted with the track. And yet a man of moderate ingenuity may soon become a skilful engineer, and be able to traverse the rail-road with velocity and safety.

The Yankees are proverbial for their ingenuity and enterprise, and every farmer, like the great and good Washington, should mark out his farming operations for years in advance. If a field is to be laid out and broken up a year or two hence, he should, at his leisure, or when no other avocation presses, dig and draw his rocks to a line — dig the trench and fill up with small stones—destroy the bushes, &c. So likewise if he intends to reclaim a swamp which has laid dormant since the days of old Adam, he should ditch and plough, or cast on his sward, and prepare his compost at a season of the year when he can do nothing else to advantage. If he intends to till a sandy loam, and convert it into a fertile field, he should prepare the basis of his compost-heap the year beforehand, which should consist of mud, clay, with vegetable or animal manure, which a little experience will teach him how to apply to the best advantage. No farmer need be at a loss for materials to enrich his fields — ditch-mud, soil from the road-side, and hedge-rows around his fields, will supply him with the basis of a rich compost — these carried into his barn-yard and hog-sty, in proper seasons and in sufficient quantities, he will soon succeed in rendering his farm productive. Every farmer should be provided with a barn-cellar, a shelter for his manure, and a work-shop for his swine. Materials for their employment can be obtained from a thousand sources; all vegetable matter, weeds, straw, coarse grasses, brakes, mud and loam, will by them be converted into the most fertilizing manure, and these substances can be collected when there is nothing suffering to call your attention elsewhere. There is no more important or profitable labour on the farm; but how to do it right, requires *head-work* as well as bodily toil.—*Plymouth Rock.*

It must be admitted as a principle of agriculture, that those substances which have been removed from a soil must and ought to be completely restored to it, and whether this restoration be effected by means of excrements, ashes or bones, is, in a great measure, indifferent. The time will come, when fields will be manured with a solution of glass (silicate of potassa) with the ashes of burnt straw; and with salts of phosphoric acid prepared in chemical manufactories.—*Liebig.*

For the Farmers' Cabinet.

Charitable Institutions.

Mr. Editor, — On my way to the city, whither I have gone for the last thirteen years, a distance of nine miles, twice a week in summer, and once a week in winter, with the produce of my farm for sale, my road leads past the Girard College — that monument of human *art* indeed! and from the day when the ground was broken for the reception of the corner-stone until the present, I have never ceased to deprecate the folly which seems to have pervaded the minds of all who have been concerned in the management of that enormous undertaking. But I am not going to say anything about the course pursued by the trustees of a will, the provisions of which have been, it is admitted, perverted in almost every particular; for great as is, in public estimation, the injury to posterity arising from such perversion, I consider the provisions of the will itself of far more importance, and to be more highly deprecated, and deem the delay in finishing the building a blessing to the present generation; and if it be never completed so as to receive a single orphan on the foundation, I shall rejoice. We all know what was the object of the founder, and this might have been effected—and I would add, with far less evil to posterity than the plan now proposed, even if carried out in all honesty—by the erection of a solid body of marble 500 feet high, a lasting monument to his memory. But let us examine the subject a little closer.

Now, I am but a plain, hard-working farmer, but my senses deceive me if I have not already done more for posterity than will ever be done by the erection of that costly fabric, for I have made many a blade of grass to grow where *none* grew before, and shall leave an example by which those who follow me will, by the same means, be able to accomplish more than I have. The Girard College is designed for the support and education of orphans—a class of persons supposed to be the most friendless in society; here they are to be fed and clothed, and receive the most polished course of education possible to be conferred by the most learned masters in the highest branches of their professions, and at the age of years, they are to be sent into the world to make their way in the "learned professions," without funds or natural friends, and quite incapable of procuring the means of subsistence by any of the *common* pursuits of life, for they cannot dig—having been bred up in the *marble palace*—and to beg, they will be ashamed! Now, in the name of honesty, what are they to do! They will not work if they could, and they cannot if they would, after having received an education to fit them for the bar or the pulpit. The learned professions will be effectually closed against them by those who have been enabled, by the assistance of wealthy friends and parents, to procure not only a suitable education, but the means of starting in life; and by whom these orphans will be considered in the light of interlopers in a course of life peculiarly their own; and all that is left them will be to obtain a living by their *wits*, each one consoling himself with the reflection, "Girard owes me a living and I'll have it." And all this source of evil arises from the very common idea that *knowledge* is *wisdom* —a greater mistake than which cannot be conceived of, for it is the wisdom properly to *apply what we know* that is wanting, and this is not to be acquired by scholastic education, that only supplying the A, B, C, of the science, to be applied on some future occasion by *ourselves*. But let it not be supposed that I am an enemy to education—by all means teach all to "read, write and cast accounts," and then let well enough alone: if after this a boy is seen to possess a talent for any particular object, take him up and push him; but schools for all, and where all are urged forward alike, without regard to their future prospects in life, is what I deprecate. Such an education as is necessary for the generality of our youth, might be fully acquired at the age of 14, and then the sooner they are put to some trade or occupation the better.

Now, only just suppose what would have been the result, if Stephen Girard had been content to do good in a common way; he might have established a noble school sufficiently capacious to embrace almost all the orphans in the city, if, in some suitable place in the country, half a million acres of land had been purchased and devoted to the support of the charity, where a course of real, practical education might have been conducted by proper classes, beginning with infants, who are, so far as I know, as fit objects of charity as older children: here, by careful examination, the peculiar bent or genius of each individual might have been discovered and cultivated for a specific purpose in after life, and at the age of 14 years, they might have been apprenticed out for six years to that business or occupation for which they had exhibited a talent, and had received a suitable education; receiving from the institution certificates of their having been educated on the Girard trust, recommending each one to the careful keeping of the master to whom he may be consigned, urging upon him the kind treatment of the lad, and upon the lad the necessity of obedience and industry in his calling; assuring both, that in case of complaint on either side, they would be heard before a committee appointed for that purpose,

and to whom appeals might be made at all times; stating also, that at the expiration of the term of apprenticeship, the lad would be entitled, by exhibiting his certificate and proving the faithful discharge of his duties, to a sum of money, or a portion of land, to enable him to start in life as an industrious member of society, whether as mariner, farmer, tradesman, teacher, &c., with the right of applying to the institution for direction and assistance in all circumstances of doubt or difficulty that might at any time befal him in his future course through life. And here I must be permitted to indulge a strong preference for the profession of agriculture, and would propose, as far as consistent with perfect freedom in the choice of occupation, which ought religiously to be guarantied to every individual, that its pursuits should be urged upon the notice of all and every one, inasmuch as "agriculture is the life and soul of every community; all other trades and occupations being dependent upon it, and to it all must look for support in the hour of trial." And who, besides Girard, ever had it in his power to settle half a country in this way? Imagine now a deserving young man, 20 years of age, having passed an apprenticeship of six years with an intelligent farmer, and receiving from the institution a gift of thirty acres of land, with a comfortable cottage, stock and implements sufficient for a commencement, and an industrious and intelligent companion in a wife of his own age and choice, from among the members of the institution — for there are female as well as male orphans, equally requiring the care and support of such an establishment—and thus beginning the world at the right end, in the morning of life! I declare I never before envied Girard his riches! With these young men, thus settled upon the lands of the institution, should be placed as apprentices, for six years, the youths of the establishment who have attained the age of 14 years, and have chosen that employment; and the older settlers should be expected to assist the new occupiers, by lending a helping hand in the cultivation of their land the first year, and in doing other kind offices. Here would be a settlement worthy the name of Harmony truly, and erected of far different materials from that of the marble palace. And all this the donor might have accomplished during his lifetime, and been "twice blessed;" laying up, at the same time, "treasures where neither moth nor rust doth corrupt, nor thieves break through and steal."

On the subject of early marriages, I should wish to be permitted to say to the young men of this land of peace and plenty, liberty and happiness, *get something to do, put your trust in God, and marry—keeping account of profit and loss.* Veritas.

Choice Observations on Stock-breeding.

It is a great mistake to suppose that animals of the same breed, and reared in the same manner, are better in England than they are in this country—the reverse I verily believe to be the case, having all the choice varieties of England now in this country. A man may now buy at home the pure bloods, selected by his own eyes, for less money than he will be required to pay for inferior animals of the same race, if he import them from England—no man therefore can import stock advantageously or profitably from abroad, unless he has been breeding the same race of animals at home for many years, and requires a new cross from a distant family; and then his selection should be made from the flocks of the best breeders, regardless of cost—such men only ought to import, and such *only* can do it advantageously and profitably to themselves.

Keep your breeds entirely distinct, and bring in your crosses from distant families of the same race, and do not give them even *one* cross of another breed, unless you have a definite object—some specific point of form or quality which you wish to correct or improve, and then you must be sure that you do not introduce, at the same time, another defective point; and pursue the object with undeviating steadiness. Should you not, upon trial, like the race you have adopted, change it altogether and get another, but do not jumble them up together, for it is wholly inconsistent with, and contrary to, the true principles of breeding; and will not fail to land you in the cheerless position of disappointment and disgust. The first cross *between different races* will sometimes give you fine animals for the butcher, and may improve some deficient point, but the next admixture, if you do not take especial care, will leave you with nothing which you can call by any other name than mere *sheep or cattle.* Like poor land made rich, without changing its constituent parts, ever struggling to get back to poverty, so live stock, from a jumble of different breeds, are perpetually inclined to breed back to their original races, under deteriorating circumstances. Occasionally you may get what naturalists term an accidental variety, but when you do get an animal of this description which you may desire to perpetuate, the experiment is a dangerous one, and to transmit its good qualities, requires no ordinary degree of judgment and intelligence, and also indomitable perseverance.

Gen. Emory.

More *gold* is to be obtained within the plough's depth of the surface of the earth, than far below it.

For the Farmers' Cabinet.

Magnesian Lime.

Mr. Editor,—On re-perusing the pages of the back numbers of the Cabinet, a custom to which I confess I am much addicted, I find an article at page 339 of the 5th volume, on "Magnesian Lime," which I would wish to notice, for the purpose of drawing from the writer farther information on a topic which still agitates the minds of some of our practical friends, although to him this must appear strange, after what he has said to settle the question by a verdict which would seem to admit of no appeal: but as facts are stubborn things, and eye-testimony goes a good way with a class of persons who are accustomed to judge pretty much by the light afforded by that mode of reasoning, I have wrought myself up to the point of encountering from your correspondent a withering glance that may possibly render me incapable from ever looking into the subject again; and yet that would be a pity, for how could such as I come to a knowledge of the truth, if we were to give up one of our seven senses, and consent to be led by the doctors, *seeing*, as we do, that none are more apt to differ than they?

That the presence of magnesia in lime was once believed to be injurious to vegetation, cannot be denied. That it is now by many considered rather advantageous than otherwise that it should contain a certain portion of magnesia, would also appear to be a fact; while others there are who look upon its presence as neither beneficial or hurtful, farther than robbing the lime of just so much *carbonate*—to which state it returns on exposure to the atmosphere — as it is found to contain on analysis. Now which way lies the truth? And after Mr. Kinser has answered this question, I would ask why is it that lime, when quite pure from magnesia, can be applied in almost any quantity to land in almost any state, whether of poverty or fertility, without injury to the crop, while that which contains magnesia, to the amount of about 40 per cent., cannot be used on the same soils and under the same circumstances to a greater extent than, say from 40 to 60 bushels per acre without manifest injury? We are told that in England lime is given with impunity, even to the amount of 500 bushels per acre—what would be the result if such excess were indulged in here with lime containing 40 per cent. of magnesia? It may be said the difference is in the climates of the two countries, but I must be permitted a difference of opinion. In the third volume of the Cabinet, pp. 14, 17, there is recorded a series of experiments, the correctness of which I was informed by the then editor of the Cabinet might be implicitly relied upon, as they had been copied from a diary or journal that had been kept by the writer while in the management of certain estates in Wales, upon which they had been most carefully conducted, for the purpose of ascertaining the value of lime in agriculture, and where occasions had offered to prove that its application, even to the extent of more than 500 bushels per acre, had been attended with the most beneficial results; but there the limestone — a pure black marble — contained, by analysis, 98 per cent. of carbonate, with not a trace of magnesia. If the readers of the Cabinet, having the 3d volume, would turn to these pages, I think they would be much interested with a perusal of their contents.

At page 275 of the 4th volume of the Cabinet is a letter on this subject from Mr. Mahlon Kirkbride, of Morrisville, Bucks Co., which shows conclusively — at least to me, who saw and examined the land upon which the lime had been used in the way that he states, and found it comparatively barren, the year after the time when he wrote—that the injury had been caused by the lime, which, it is admitted, contained magnesia in its composition. He says, "my father had a field of 25 acres of as good wheat soil as could be found—a deep loam. Its produce for years stood almost unrivalled; he, wishing to make it still better, applied to a part 50 bushels of lime to the acre, to the balance (excepting half an acre) about 65 or 70 bushels to the acre; the result was as follows: in 1837, wheat crop not much more than the seed; 1838, corn, about 10 bushels per acre on the heaviest limed part, on the other 40 bushels; 1839, oats good where there was the least lime, on the other part 15 to 20 bushels per acre. The half-acre above alluded to received 50 bushels, and the result was, of wheat not a handful; of corn, some stalks three feet high and two bushels of nubbins; of oats, a growth of straw 16 inches high, which refused to show any symptoms of ripening, and was cut to get it out of the way." It must be added, the spot on which the lime had been deposited when taken from the canal-boat, and from whence it had all been removed with the most scrupulous care, had not, three years after, produced a single trace of herbage, not even a weed—would Mr. Kirkbride be pleased to inform us the *present* state of that portion of his land? At page 55 of the 5th volume of the Cabinet, notice is taken of Mr. Kirkbride's communication by a writer who has had great experience in the use of lime, and it is to be regretted that he did not give us the analysis of that which he applied so unsparingly and profitably.

Now I am sure I have no private interests

to serve, and no prejudices to support, but I would just ask Mr. Kinser, at the risk of having applied to me the old adage, "a fool can ask more questions in an hour than a wise man could answer in a month," 1st. How is it that when the lime from Messrs. Potts and Dager's quarry, containing 96 per cent. of carbonate, and not a particle of magnesia, is exposed in a heap, and has become perfectly slaked, that white-clover and the finest grasses will be found to penetrate through the lime at the margin of the heap from the depth of perhaps an inch or two, and spread over its surface; and on the removal of the heap, that the herbage will grow on the bald spot and become a rich turf in a short time? 2d. How is it, that the lime burnt from the stone quarried from the south side of the valley at Downingstown shows exactly the same results; while that produced from the stone quarried from the north side of the same valley, perhaps not a quarter of a mile distant, is totally different in its effects, destroying all vegetation, and leaving a galled spot for years where it had been deposited for slaking? for this fact, and a true analysis of these two varieties of limestone, I would appeal to Dr. Sharpless and his brother, who reside on the spot, as also to Mr. Linley in the immediate neighbourhood, asking of the latter gentleman if he has not known oats, sown on a limed soil, to penetrate through a lump of lime several inches in thickness, and grow to the height of about five feet with the greatest luxuriance, *that* lime having been procured from the south side of the valley. The difference between the two stones being peculiar likewise, that from the north side being *heaviest*, but producing the lightest lime—the stone from the south side being lighter, but producing the largest quantity of pure lime; showing that more foreign matter had been thrown off and dissipated during the process of calcination from the stone obtained from the north side of the valley, and proving conclusively, the greater purity of that from the south side. And 3d. I would ask, was it ever known, that herbage would spring up on the margin of a slaked heap of lime containing 40 per cent. of magnesia, even penetrating through it from the depth of an inch or two, and spreading over it, and for the earth to show no sign of its pernicious effects in the shape of a galled spot, after its removal?

The subject is of vast importance, and is the cause of my troubling you with this communication, my object being to "keep the ball in motion," and to elicit the truth. And to this end, I would take the liberty to ask your subscribers, Mr. R. T. Potts, Mr. Dager and their neighbour Mr. Henderson, who has, I understand, erected a kiln for the purpose of calcining the cuttings of his pure white marble, whether they have it not in their power to throw some light upon the matter, not doubting that the white marble of Mr. H. contains at least as great a proportion of carbonate of lime as the beautifully mottled variety of Potts and Dager, namely, 96 per cent.

That magnesian lime has proved of very great service when applied to the soil, no one can deny, for the evidence is before our eyes; but I hope that the subject may be investigated to its better understanding, without fear for the result. And I know of no one who has it in his power to do us more service than your correspondent—will he, therefore, take the above remarks into his consideration, and favour us with his conclusions? I am, I must confess, by no means inclined to *blink* the question, lest it should "arrest the march of improvement, and throw cold water on the spirit for liming" which is abroad in the land, but I do wish that your correspondent would inform us the cause of the very great difference which is seen in the effects between lime containing 96 per cent. of carbonate and no magnesia, and that containing about 50 per cent. of carbonate and 40 per cent. of magnesia. It may be that magnesia operates in a different manner from lime—nay, it might perhaps be found to be more valuable than it for the purposes of agriculture—and to this I have not the slightest objection; that is of no consequence, and need not frighten any one whose sole object is to become acquainted with the true mode of its operation. S.

P. S.—Since writing the above, the No. of the Cabinet for February has reached me, and I find that your correspondent, Mr. Lewis of Pottsville, has embraced the opinion that the presence of magnesia in lime is not injurious for agricultural purposes, nay, that it is "diametrically opposed to it;" and to this decision he has been brought, not by a "two-penny experiment made in a garden-pot, or the corner of a field," but by its extended use over hundreds of thousands of acres through a long period of years, in opposition to the "would be oracles of the day," or the theory that has been "babbled" on the subject. Now, by such men as your correspondents, Messrs. Kinser and Lewis, I presume we shall be sure that the subject will be properly treated, and the truth elucidated, but I would meekly ask, why do these gentlemen use such strong language to express themselves, if they are not in some way interested in the matter? Surely it does not require such terms of contempt and reproach to silence the workers in a garden-pot or the corner of a field, or those very small oracles or babblers who presume to arise in their path!

S.

Luzerne Co., Feb. 28, 1842.

For the Farmers' Cabinet.

Sugar-Beet.

Mr. Editor,—I find that the Massachusetts Agricultural Society has awarded a premium of $15 to F. Tudor, of Nahant, for a crop of sugar-beets measuring 1300 bushels per acre. Mr. Tudor's account of the *management* of the crop—a statement which should, I think, always be made to accompany a premium crop—was as follows. "The ground was old pasture of indifferent soil and very stony; it was broken up in 1840 by trenching, 20 inches deep, which brought much poor soil to the surface. The stones were gathered from the land and buried in the bottom of the trench, upon which was spread three inches deep of mussel-mud, then the turf and the best of the soil, then two inches of rock-weed fresh from the shore, or cut from the rocks; then the less rich part of the soil and more mussel-mud, the top being left with the poorest and most gravelly soil. In the spring of 1840 it was sown with sugar-beet, but the crop was poor. In 1841 the land was ploughed six inches deep without reaching any of the rich soil below, the surface still exhibiting little but yellow loam and gravel. Upon this I caused sugar-beets again to be sown, and when the plants had sprung up, I had the land *dressed on the surface*—merely spreading on 15 cords of rich cow-yard manure. This caused the young plants to shoot and grow away most vigorously, and the crop has been so large that I have determined to exhibit it before the State Agricultural Society, and put in a claim for premium. No particular care has been taken of the crop, for although the seed had missed on several patches, they were not filled with plants, while during the drought of August, many of the tops were cut as fodder for cows; but for this, I believe the crop would have produced 1600 bushels per acre. The crop was sold by auction, and the weight given was what the purchasers paid for. The largest root measured 34 inches in circumference, and weighed 31 pounds, but it was hollow; the largest sound and perfect root weighed 21 pounds; a fair bushel weighing 60 pounds. I think the large crop which has been produced on my land was not caused by the trenching, but *by the looseness of the soil and the top-dressing of rich manure;* the value of a top-dressing in a season of drought being undoubtedly great."

I conclude with one remark—the above account speaks volumes for the systems of subsoiling and top-dressing, a mode of management which seems at length to be commanding the notice of agriculturists generally throughout the land.

J. Grant.

To the Editor of the Farmers' Cabinet.

Potatoes.

Sir,—Seeing in the public prints that Mr. Gowen had received the Philadelphia Agricultural Society's premium for a crop of potatoes yielding 200 bushels per acre, I have not hesitated to consider it an error of the press, for I can in no other way account for the circumstance; what! 200 bushels of potatoes a premium crop, and no other competitor? how can this be? In the N. E. Farmer for the present week, I find an account of General Barnum's crop of potatoes of which we have often heard, and feel a desire, upon the present occasion, to bring it to your notice. It is said by the General himself, "Presuming the product of my potatoe crop would be such as to partake too much of the marvellous for general belief, to put it beyond the reach of doubt or contradiction, it was agreed to appoint S. Wilson, one of the common council of the city, and R. Stowell, measurer, to superintend the measuring of the ground, the digging of the potatoes and the measuring of them; and the following was the result of the different pieces; No. 1, 1361 bushels per acre; No. 2, 3410 do.; No. 3, 2041 do.; No. 4, 1654 do.; No. 5, 2253 do. Average of the whole number of pieces 1843 bushels per acre; the casting of the sums being performed by B. Allen and Sidney Dunton, mathematicians." From the way in which they were cultivated, the General believes that 1000 bushels of potatoes per acre may be raised with less than one-half the expense that it would require in the common mode to raise that quantity on four acres, and this conviction arises from 25 years of experience. For the account of the mode of cultivating the enormous crop above mentioned we are referred to page 329 of the 13th volume of the N. E. Farmer. If any of your readers are possessed of that volume, would they favour us with a copy of it for our information? I confess the quantity there stated is so great that the General must excuse me for saying, I should have liked to see "'em are taters mishured," and would ask how many inches thick of potatoes would an acre square of land exhibit, if 3410 bushels were packed upon it? The largest crop I ever saw was 700 bushels per acre, and then the earth seemed perfectly covered with them, although about a fifth only of the Vermont crop.

Pomme de Terre.

Jan. 28, 1842.

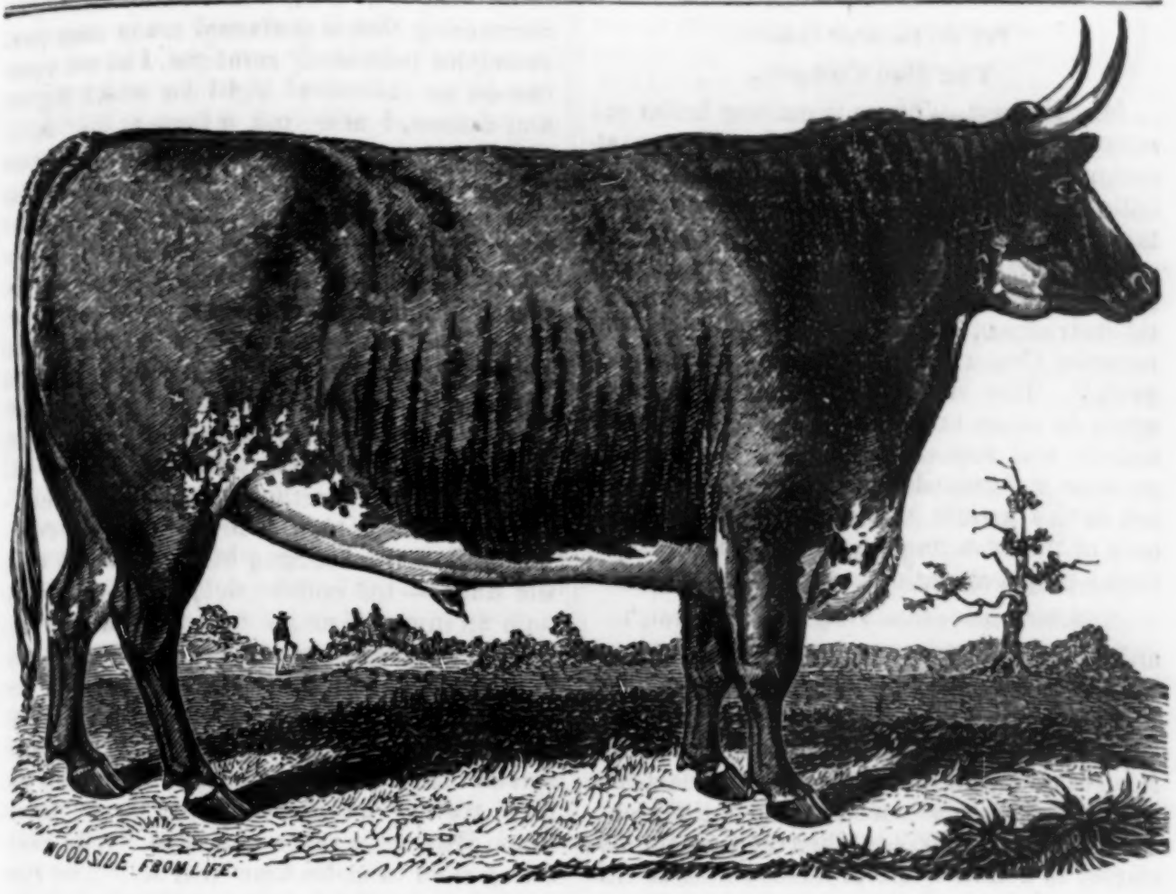
Economy, industry, reading, observation, reflection—when you see all these concentrated in the same individual, set that man down as a good manager.

Desultory Reading.

How much of the reading, even of persons ignorant of all science, refers to matters wholly unconnected with any interest or advantage to be derived from the knowledge acquired! Every one is amused with reading a story; a romance may divert and a fairy-tale may entertain, but no benefit beyond the amusement is derived from this source; the imagination is gratified, and we willingly spend a good deal of time in this gratification, rather than in resting after fatigue, or in any other bodily indulgence. And so we often read a newspaper without any view to the advantage we are to gain from learning the news, but because it amuses us to know what is passing. Accidents, adventures, anecdotes, crimes, and a variety of other things entertain us, independent of the information we receive respecting public affairs in which we feel interested as citizens of the state, or as members of a particular body. It is of little importance to inquire why these things so excite our attention: the fact is certain, and proves clearly that there is a positive enjoyment in knowing what we did not know before; and this pleasure is greatly increased when the information is such as excites our surprise, wonder or admiration. Persons who take delight in reading tales of ghosts which they know to be false, and feel all the while to be silly in the extreme, are merely gratified or rather *occupied* with the strong emotions of horror excited by the passing fancy, for it can only last an instant. All such reading is a degrading waste of precious time, and has a bad effect upon the feelings and the judgment; and children's books have too often been made upon the pernicious plan of exciting wonder, generally *horror*, at whatever risk. But *true* stories of horrid crimes, murders, and pitiable misfortunes, shipwrecks, &c., are not much more instructive; it may possibly be better to read these than to sit drinking or gaming, which, when carried to excess, are crimes themselves and the fruitful parents of many more, but this is nearly all that can be said for such vain and unprofitable reading. But if it be a pleasure to gratify curiosity, to know what we are ignorant of, to have our feelings of wonder called forth, how pure a delight of this very kind does Natural Science hold out to its students! Now recollect some of the extraordinary discoveries of mechanical philosophy; how wonderful are the laws that regulate the motions of fluids! Is there any thing in all the idle books of tales and horrors more truly astonishing than the fact, that a few pounds of water may, by mere pressure, without any machinery, by merely being placed in a particular way, produce an irresistible force? What can be more strange than that an ounce weight should balance hundreds of pounds by the intervention of a few bars of thin iron? And then observe the extraordinary truths which optical science discloses! Can any thing surprise us more than to find that the colour of *white* is a mixture of all others? that red and blue and green and all the rest, merely by being blended in certain portions, form what we had fancied to be no colour at all, rather than all colours together! And chemistry is not behind in its wonders—that the diamond should be made of the same material as coal; that water should be chiefly composed of an inflammable substance; that acids should be, for the most part, formed of different kinds of air, and that one of these acids, whose strength can dissolve almost any of the metals, should consist of the self-same ingredients with the common air we breathe; that salts should be of a metallic nature, and composed in great part of metals, fluid like quicksilver but lighter than water, and which, without any heating, take fire upon being exposed to the air, and by burning form the substance so abounding in salt-petre and the ashes of burnt wood:—these surely are things to excite the wonder of any reflecting mind — nay, of *any one* but little accustomed to reflect; and yet these are all trifling when compared to the prodigies which Astronomy opens to our view! the enormous masses of the heavenly bodies; their immense distances; their countless numbers and their motions, whose swiftness mocks the uttermost efforts of the imagination! To learn these things, and to reflect upon them, occupies the faculties, fills the mind, and produces certain as well as the purest gratification.—*Selected.*

Painting Houses.

It has long been a subject of inquiry as to the best time to apply paint to the clapboards of houses for durability. Repeated experiments have been made, within twenty-five years past, which have resulted in the conviction, that paint applied between November and March, will stand more than twice as long as that which is spread in the warmest weather. The reason is obvious; for in cold weather the oil and the component parts of the paint, form a hard substance on the surface of the clapboard, nearly as hard as glass, and not easily erased or even cut with a sharp knife, and will not soon wear off; whereas paints applied in the months of July and August, and more especially if in a severe drought, the oil immediately penetrates into the wood like water into a sponge, which leaves the lead *nearly dry* which will soon crumble off.



"JERSEY INDEPENDENCE."

The property of the breeder and feeder, Edward Tonkin, Esq., Clarkesboro', N. J.

The above is a splendid portrait of one of the magnificent herd of fat cattle, bred and fed by that spirited improver, Mr. Edward Tonkin, drawn from the life by Woodside, and engraved by T. H. Mumford. There are six others in the group — five oxen and a spayed heifer—which are in no way inferior to the individual that has furnished so fair an opportunity to draw forth the powers of the pencil and the graver; all which it is intended shall lend their aid to embellish the pages of the "Farmers' Cabinet" in future numbers. Our next will contain the portrait of "Washington," which will be accompanied by a full account of their "birth, parentage and education," &c., and much that will be interesting to the agriculturist generally, and to the breeder of fine stock in particular.

"LITTLE DELAWARE."

Major Philip Reybold's annual exhibition and sale of fat sheep took place in Philadelphia on the second day of March. It consisted of twenty-one *two years' old wethers*, of the pure Leicester or Bakewell breed, raised by himself, and fed by his son, Mr. Clayton Reybold, who has the immediate charge of the Major's flocks, which now number upwards of 1000, pure and half-bloods, of remarkable size and perfection of symmetry. We obtained portraits of two of these splendid specimens of nature and art, which have been named "Major" and "Clayton," after the judicious breeder and feeder. These are designed for publication in our future pages; but even the talents of our friends, the artists, have not been more than equal to the task of doing justice to their fine proportions. The publication of these portraits will be accompanied with interesting particulars relating to their "breed and feed," and in the meantime we give below the live and dead weights of these animals, as rendered by the Major and the spirited purchasers, Messrs. Schneck and Brothers, exclusively for our work. They were slaughtered on the 3d of March, and were exposed for sale at the stalls Nos. 24 and 26 in Second St. Market, between Pine and Lombard, Philadelphia. "Major," live weight 251 pounds—dead weight, the four quarters, 147 pounds. "Clayton," live weight 227 pounds—dead weight 130 pounds—cutting 4½ inches thick on the rib. A specimen of the mutton is deposited at the office of the Cabinet for the inspection of our friends.

For the Farmers' Cabinet.

The Bee Culture.

Mr. Editor,—There is nothing better calculated to strengthen our local and home attachments than a proper attention to those little matters which evince a correctness of taste, and impart a neatness to the grounds around our dwellings. They heighten our domestic comfort; give lessons of experimental instruction, and in a little time afford us luxuries almost "without money and without price." This remark, if carried out, might apply to many branches of quite a domestic nature, and immediately connected with the gardens and grounds adjacent to our domicils; but in this article it is my purpose to speak only of the advantages and pleasures derived from a proper attention to that little insect that

"Gathers sweets from every opening flower,"

and which ought to receive the care and attention of every family whether rich or poor. There are but few who do not consider that the sweets extracted from the nectary of the flowers of the field and forest, manufactured by this industrious insect, as one of the greatest of luxuries. What then can be the obstacles to a more general introduction of this branch of domestic luxury but carelessness and inattention? But perhaps it would be as well to modify the conclusion implied in the question, by attributing this want of attention to a want of correct information on the subject, to which may be added a knowledge of the fact that almost all bee-breeders resort to the mistaken, cruel and repulsive practice of destroying the bees to obtain their honey, and also, as a difficulty, the frequent destruction of swarms by the larva of the bee-moth when reared in the common hive. The bee-house, the bee-palace, and other hives that have been constructed for the better security of bees from the moth and other depredators are objectionable, not only as bad protectors, but from their inconvenience and the expense attending them without a corresponding advantage. The bee-breeder wants a hive that is simple in its construction, portable, cheap; and at the same time affording every facility to extract the rich surplus stores from the habitation of his numerous labourers, without putting them to a cruel death as practised under the old system, or interfering with their labours. These important advantages, I may safely say, have been combined in the construction of *Hall's Patent Self-protecting Bee-hive.* Sometime in the latter part of last spring I had occasion to call at a public house in my neighbourhood, where one of these hives was exhibited by Messrs. Benton and Deming, the purchasers from the patentee to make, use and vend the same in the eastern counties of Pennsylvania. On discovering that it contained many important principles judiciously arranged, I at once purchased an individual right for which I gave four dollars, I also took a hive at $1 75. I would here state for the information of such of your subscribers as may feel interested in this subject, that Mr. Samuel Guss, of the borough of West Chester, is now the proprietor of the patent-right for this, and, if I be correctly informed, of several adjoining counties. The new hive was taken home and secured in a suitable place to receive the first swarm that should appear from the old hives. On the morning of the eighth of June a fine vigorous swarm issued from a two years' old hive, and in a little time settled on a cherry-tree limb, about ten feet from the ground. The new self-protecting hive was taken from the stand — the bottom detached — the hive held up inverted under and near the swarm —the limb was then suddenly and rather violently jarred, causing the bees to fall in the inverted hive, which was then restored to its proper position on a sheet that had been spread under the tree, the four corners of the hive resting on blocks some three inches thick, leaving a space sufficient for the scattering bees to make their way in. The bees settled down and became reconciled to the hive in a very short time, and in the course of two or three hours thereafter, the hive was set on the detached bottom, hooked on, and the inclined planes also hooked up to keep the bees from escaping; it was then carried to the place where it was intended to remain —the planes unhooked, and the bees left in full and undisturbed possession of their new habitation. The hiving, as I have above stated, took place on the 8th day of June. On the 24th day of June I discovered that the bees had filled the body of the hive with honey, and had commenced working in the boxes above. On the 29th day of July I took a well-filled box from the hive, the honey in which weighed 6 pounds 6 ounces, and on Sept. 27th, I took from the same hive two boxes containing 11 pounds 4 ounces, making altogether in the three boxes 17 pounds 10 ounces of surplus honey. One of my neighbours has four self-protecting hives, from each of which he took four boxes of honey last summer and fall; but again there are others that did not succeed so well, owing I have no doubt to weak swarms. In what way, I would ask, could a man invest a few spare dollars to better advantage than in a good swarm of bees? If placed in a self-protecting hive, or in any hive of equal advantages, in an ordinary season the surplus honey would almost, if not quite, pay the original cost of the swarm the first year. In concluding this article, which I have run to a greater length than I had at first intended, I trust

that the above flattering results from actual experiments will be of themselves ample apology for the strong terms in which I have expressed my opinion of the advantages afforded in the construction of "Hall's Self-protecting Hive." APIS.

Chester Co., Feb. 5, 1842.

To the Editor of the Farmers' Cabinet.

Experience Teaches.

MR. EDITOR,—I am a constant reader of the Cabinet, and a general approver of its contents, but have not hitherto been able to subscribe to one of its leading doctrines, viz. that blight is only an *effect*, and not a *cause*; indeed the time has been, when the idea was to me preposterous; and even very lately, when I witnessed my rose-trees covered with insects, my fruit-trees loaded with worms, and my wheat destroyed by the Hessian fly, I have often exclaimed, if these animals be not the *cause* of the disease, I can never again believe my eyesight; and if seeing is *not* believing, I know not what is. But all at once I am become a firm believer in the doctrine, and my conversion has been brought about by the agency of the testimony above alluded to, namely, the evidence of my eyesight, and I must tell you how it happened.

You must know I am very fond of flowers, and have plants in pots which I, too, nurse with a parent's care — that is, I often spoil them by indulgence and over-caressing. Now it so happened that they were left so long abroad in the autumn, that one morning I found them looking very blue from the effects of the night exposure, although no frost had happened: upon this, I removed them to an upper room in the house where were three windows, and plenty of light and warmth, but with all my care and attention, I soon found them covered with the aphide insect, and showing signs of deep disease. I washed them with warm water; gave them air and sun, and cleared the leaves from vermin, but all to no purpose, for although the young shoots advanced a very little in growth, every new leaf was clothed thickly with small aphides which continued to grow with their growth and strengthen with their strength; so that, at last, I gave up the hope of cleansing them from a mass of corruption, and was often tempted to throw away the whole of them. At length I determined to take them into winter quarters, and fitted up for their reception a shelf in my bed-room, after the plan mentioned at page 42 of the present volume of the Cabinet, and here they have been preserved from frost, although their appearance has been deplorable, their leaves and young shoots having been constantly covered with living blight, which was renewed as often as removed, in a surprising manner. The result has been the death of several of the plants, and the rottenness at heart of some others, with a falling away of almost all the old foliage. But about a fortnight ago, I observed a freshness in the appearance of the young shoots, which caused me to examine them closely, when I found that the unseasonable warmth of the weather had induced a partial spring, and that new buds had begun to make a start; while the aphides, which had hitherto been in active health and vigour, were almost motionless, and had become pale and of a sickly hue; and repeated after-examinations have exhibited a regular return of health in the plants, with as regular a state of decay of the animalculæ; and on this day there is not a living aphide on any of the plants; a new start of vegetation — arising from a return of the circulation of the sap — having operated just in the way described; rendering the juices unfit for the support of a tribe of beings which can exist only on putricity. The young shoots of the plants are now hung with the dead carcasses of the aphides in the shape of little white shells, but not a single living insect can be found! The plants are throwing out young shoots from the stalks, and those of them that are dead at the heart of the top-shoot are making fresh heads all perfectly free from vermin, although it was found impossible to clean them while in a state of sickness by any artificial means whatever. The sap now *circulates*, and no longer exudes through the pores of the plant to serve as food to a race of beings which are created, I am now convinced, for the purpose and the *only* purpose of feeding on putricity —to clear all away and renew the face of nature.

This little circumstance has opened an immense field for reflection! I am amazed with the view which it unfolds, and shall take every opportunity to investigate so very singular and astonishing a provision of nature. Its beautiful simplicity, united with a wisdom of purpose absolutely profound, overwhelms the contemplative mind, and creates a feeling of awe and reverential devotion which is quite unspeakable, and surpassing human thought. I shall return to a re-perusal of the articles on this subject contained in the Cabinet with increased interest, and with the expectation of deriving from it a never-ending source of delight. SUBSCRIBER.

Jan. 12, 1842.

Money is coveted because it can command labour; but of what use would it be, if labour would not be commanded by it? What would it avail to possess the riches of Potosi, if thereby we could not acquire the products of agriculture?

To the Editor of the Farmers' Cabinet.

Soiling of Cattle.

Sir,—At the commencement of spring I was given to understand that Mr. Jabez Jenkins, of West Whiteland, had determined to put to the test of experience the English mode of summer soiling, and from his known character and capability I was led to expect a full and faithful account of the result; but hitherto we are without information on the subject. I wonder if he could be induced to describe the means which he used, and the success attending them, more especially as it regards the health and comfort of the stock, many persons entertaining the idea that even partial confinement for so long a period would be found of injurious consequence; would he therefore say what was the extent of quarters allowed them for exercise, and whether the whole space was littered or covered with any foreign substance to receive their manure when dropped? for without this provision, I fear that much waste would be sustained. The subject has always appeared to me a very interesting one, and I had often wished that some person, who had it in his power to do justice to the scheme, would undertake the experiment in this country, and see if any other than the consideration of the expense of labour attending it could be brought against it: it is found to be economical and profitable on the continent of Europe, and if nothing more than the difference in the price of labour here and there can be brought against the practice amongst us, it must indeed be a poor business that could not afford about the amount of half a man's wages when divided amongst a score of cattle. For myself, I should not readily be brought to believe that so trifling a matter would be able to turn the scale in a fair experiment.

Many essays have been written on this subject, and we are yet calling for "more facts"—indeed I begin to think your correspondent, who proposes that farmers should grow their own facts, is about right, and if I were differently situated, I would set about it, but my land is in pasture at present, and divided into small portions, and I should not feel justified in changing my course until I had more data to proceed upon. Would, therefore, our friend Mr. Jenkins furnish them at his early convenience, and inform us of the extent of crop which he found sufficient for the support of a given number of cattle for a given space of time? And in the meantime I send for insertion in the pages of the Cabinet an excellent paper from the American Farmer, the writer, however, appearing about as uninformed on the subject as myself, and seeking the same "fact." J. Godson.

Feb. 20, 1842.

"The question has often been discussed, whether it be better to depasture stock, or soil them? that is, whether it be more economical to let them run on the meadows and gather their own food, or keep them up through the grass season, and cut and carry the grass to them; but as yet the old custom of depasturing prevails, though every one who has made the experiment of soiling, bears testimony to its superiority on the score of the economy of provender, as well as manure. In England, where there has been much experience, the difference in favour of the last system of feeding, is so apparent, that but very few attempt to controvert the claims which are there put forth in behalf of its advantages. To be sure, labour, a great essential, is in that country much cheaper than here, but as half the labour of a hand would be competent to cut a sufficient quantity of clover for, and to fodder 20 head of cattle, that should not be permitted to operate to the non-adoption of the plan, as the cost would not be anything in comparison with the value of the extra quantity of manure which would be made under a well-devised and properly executed system of soiling, over and above that which arises from depasturing. Even if it took the same quantity of land to support cattle under the former system, which it does not, still the great saving in manure alone should be of sufficient moment to influence the judgment in behalf of the latter. Let us see how the two systems compare:

"In grazing, an acre of *good* grass is considered necessary to the support of each head of stock; of *ordinary* grass one and a half, or two acres are not more than enough. In England, where the soiling system has been very generally adopted, and carried on with care, according to Mr. Curwen's experience, three acres of grass cut and carried, supplied 30 milch-cows, with 28 lbs. each, daily, during a period of 200 days. To have supplied a similar number of cows, with a like quantity for the same period, would in the usual way of management, have required 75 acres of land for its production. And to have grazed such a number of cows at liberty that length of time, must, it is obvious, have taken a very considerable number of acres. Again he says:

"'This vast produce from so small a piece of land, may at first appear very problematical; but experience and good management will soon convince the dairyman that he may realize the advantage, great as it may appear. To enable the meadow to support this exhaustion from the scythe, it should be cleared at the end of every autumn, from all kinds of weeds and rubbish, and fresh grass-seeds of the best kinds, cast upon the bare places. A coat of good rotten manure, or

ashes, should then be allowed, consisting of all that can be collected from the household, or procured elsewhere, mixed up and augmented with virgin earth.'

"If we admit that the number of acres assumed by Mr. Curwen, three and a half to each cow, be too great, and take one, the minimum quantity named by us, as the proper one, then there will still be a saving of 27 acres of grass by the soiling over the depasturing system. And if we reserve this grass to be cut for hay, it will give a sufficient quantity to carry the cows through the winter, or foddering season; so that, to this amount there will be a clear gain. Then let us add the immense quantity of manure, which will be accumulated in the soiling-yard, and we cannot hesitate a moment in coming to an opinion as to the relative merits of the two plans of feeding stock; for all will admit that summer-made manure is very far better than that made in winter, as also that the most of the droppings in pastures is lost, by means of evaporation and rains, to all the available purposes of the farm, and no one will contend, that the cost of the price of half the labour of one hand, and that of a horse and cart during the time, should be considered to be of more value than the savings we have pointed out. Suppose that, in addition to the accumulation of manure from the droppings of the cattle, the yard be covered some 9 or 12 inches deep with mould or other earth from the woods, or head lands, to act as absorbents of the cattle's stale—we say, suppose this be done, and we will venture the assertion, that every square foot of such mould or earth would be so saturated with the urine of the cows as to be equally as valuable as their droppings. Thus then, in whatever light we may consider the subject, the advantages in favour of soiling are apparent to the judgment.

"It may be urged against the soiling system that it would not afford the requisite exercise to the stock. We are free to admit that exercise, to a certain extent, is necessary to the health of the brute creature, but at the same time we are free to maintain, that all that is indispensably necessary to ensure health and comfort, may be obtained in a yard of a fourth of an acre in extent, and we doubt much if regularly fed and watered therein at stated hours through the day, and salted semi-weekly, whether they would not maintain as much physical vigour thus confined, as they would roaming at large in a pasture of many acres. It is questionable with us also, whether they would not yield fully as much if not more milk and butter. At all events, the experiment is worthy of a trial, and we, therefore, commend it to our readers' consideration. The following article, from the Maine Cultivator, is strongly confirmative of the position we have taken, and we venture the opinion that no one who may make the experiment will ever have cause to regret it:

"'Josiah Quincy, President of Harvard College, has one of the finest farms in the vicinity of Boston. It is extensive and surrounded by a flourishing hawthorn hedge, but there is not an interior fence on the premises; the whole presents a single field, devoted to all the various purposes of agriculture. No part of it is allotted to pasture, properly speaking, as his cattle are fed in their stalls and never suffered to roam over the fields—and the advantages of his system are thus given:—Formerly there were seven miles of interior fences to be kept in repair, but by keeping the cattle up, the whole of this expense is saved. Formerly, sixty acres of this farm were devoted to pasturage; but now, a greater number of cattle by one-third, are kept by the products of twenty acres, and the cattle are in the best condition.

"'The savings by these means are enormous, and the immense advantages arising from it too apparent to be dwelt upon. During the summer the cattle are fed upon grass, green oats or barley, cut the day before and suffered to wilt in the sun, but the manure which is thus saved will more than pay the extra expense and trouble. The farm is most highly cultivated, and every kind of grain and vegetable has a place.'"

To the Editor of the Farmers' Cabinet.

Green-Sand and Shell-Marl.

Sir, — It is seldom indeed that I leave home, but when I do, I am pretty sure to find that some friend or neighbour, from whom I had wished or expected a visit, has called in my absence; and just so it happened when on your late sojourn in our neighbourhood you did me the favour to visit my place and found me absent—an occurrence which I much regret, for I had long wished for the opportunity of an hour's conversation with you on my favourite topic, agriculture, of which I never tire. I wished also to thank you for your attention to my request, and for the valuable information contained in your answer to my private communication, of which I availed myself much to my satisfaction. For your services I am greatly your debtor, and will you accept my thanks?

But there is one subject on which I was very desirous of obtaining your sentiments, for just at that time I had received my copy of Mr. Booth's Geological Survey of Delaware State, and had gone deeply into his statements respecting the different beds of marl which he examined and analyzed as he passed through the section of country where

they are situated, and should have been happy to have visited, with you, some of these pits, *book in hand*, and spent a day in reading, comparing and noting some striking peculiarities which, while on the spot, would be found to add greatly to the interest of certainly one of the most important subjects treated of in Mr. Booth's book. But as I have been deprived of the pleasure of your company in the personal examination of these interesting spots, I must be permitted to notice a circumstance relating to them which I cannot reconcile with their real appearance. In Mr. B.'s book we are given to understand that the green-sand, although not exhibiting a trace of lime in its composition, is still extremely rich and valuable, in consequence of the silicate of potash which it shows on analysis. Now what I wished was, to visit with you these green-sand pits—Rogers's, Polk's, and Wheeler's, and compare the spontaneous growth of the herbage around them, with that of Biddle's, Reybold's, Higgins's, and Hurlick's pits of shell-marl, for I know not a better criterion by which to judge of the fructifying influence of these remarkable substances, so different in their appearance and in their properties; for whenever I visit these last mentioned pits, I am struck with the richness and variety of the native verdure which completely covers all the earth about—not only white clover, but green grass and red clover of immense growth, which, although some persons consider to have sprung from the seeds of hay with which the horses and oxen have been fed while the wagons were loading, I am satisfied is of spontaneous growth, the effects of the marl. At Mr. Hurlick's marl-bed, on the Delaware canal, the effect of the marl is in this particular very apparent, for the road from the pit, which leads through a field not yet improved, is covered like a carpet with the finest grasses, white clover predominating, brought up by the marl which had dropped from the wagons while passing; and, more remarkable still, the pathway formed by the treading of the drivers of the teams, on the right-hand side of the road coming from the pit, is most exactly marked with a beautiful covering of the same, the effect of the marl brought from the pit on their shoes, to which it adhered while loading their wagons, and is left on the ground while walking by the side of their teams. But nothing of this spontaneous growth of herbage is to be seen on the banks of the green-sand pits, although they too must have often been covered with the droppings from wagons, &c. Now I would ask, while reasoning from this perceptible difference, is it necessary that the green-sand, although containing silicate of potash in abundance, should receive a dose of lime before it can be made to operate as the shell-marl does in its *natural* state? if so, there must be a considerable difference in its value as a manure when compared with the shell-marl, for besides the cost of the lime, there is the time lost before it commences operations, as well as the labour of mixing the two together. And again, does not the shell-marl operate, secondly, by adding to the staple of the soil? a consideration of great importance, acting mechanically and chemically at the same time. Now, from what I have said, it must not be supposed that I wish to detract from the value of the green-sand—by no means—but the comparison which might be instituted will, I conceive, show that there is a marked and very peculiar difference in the mode of operation between the two, the advantage being much in favour of the shell-marl, which contains as well the means of permanently renovating the soil, as invigorating and stimulating the present growth of crops, a circumstance of very great moment, and warranting, perhaps, the expectation that, while in some seasons and under peculiar circumstances a very heavy dressing of green-sand might prove injurious as an overdose, the application of shell-marl in *any* quantity will be beneficial, particularly if we were to do, as I am convinced we ought to do, allow our marl to lie and ferment and sweeten after taking it out of the pit, and before spreading it; and if the whole mass were to be turned over and pulverized during that time, there is every reason to expect that the beneficial result would pay amply the expense of the labour bestowed. We have often observed, that on exposure to the atmosphere, a kind of efflorescence takes place on the marl, which, no doubt, is highly conducive to the *immediate action* which we have sometimes noticed to take place on spreading such marl on young clovers as a top-dressing. In our marl beds we have a mine of *gold*, but I fear we as yet but little understand the process of *refining*, and practise less; but the difference between the two articles is just this—while gold is the "root of all evil," marl is the root of all good; and while the one, even in Solomon's time and since, has ever been the *precious metal*—meaning, I presume, that it costs about $5 in labour to make $4 in value, marl has bestowed wealth in abundance upon all who have been engaged in mining and disseminating it.

T. B.

Near Middletown, Del.

Mr. A. Palmer, of Goshen, Connecticut, gives the following as the crop taken from 5 acres of land in 1840: viz. 600 bushels corn in the ear, 118 cart loads of pumpkins, 300 bushels turnips, and 240 bushels potatoes.

Sunrise over the Ocean.

The East is kindling with the first pale streak
Of deep'ning, bright'ning red. The firmament
Is full of clouds, light, soft and beautiful,
And ever varying in their shades and shapes,
While each new change seems lovelier than the last.
Slowly the light extends;—the morning star
That glittered, jewel-like, amid the gloom,
Is fading in the twilight, strengthening still
And, like a curtain gently drawn aside,
Revealing, as the dawn glides softly on,
Earth, in her dewy freshness, fragrant, fair;
And Ocean—glorious in serene repose!
Meanwhile, the East is bright'ning; tint by tint
The crimson melts to rose and saffron hue;
And the dark clouds above the horizon's brow
Are bathed in splendour, and in haste assume
The livery of their Master, at the news
Which the swift rays have brought of his approach.
He comes!—he comes!—and, like a warrior-king,
Rejoicing in the might of his wide sway,
Bursts on the dazzled sight! Old Ocean's brow
Is wrinkled into smiles at his return,
And his white breakers a rude welcome roar!
What marvel, if th' untutored savage bow
In worship to an image so divine
Of its divine Creator! Oh! happier we,
To whom 'tis given, to view with Faith's bright glance,
An image of the "Sun of Righteousness,"
Who doth arise upon the sin-sick soul
With healing on his wings,—and ever shines
With glory, tenfold richer to the mind,
Than to the dazzled vision is this scene
Of sunrise o'er the waters—though it be,
Of all God's wondrous works, *most wonderful!*

Miss E. S. Rand.

For the Farmers' Cabinet.

The Potatoe Crop.

Although the potatoe crop has been very much increased both as to quantity and quality within the period of nine years, the time that I have been in this country, still it must be admitted, that much remains to be done before we reach the point at which some of our eastern brethren are doing business in the "tater line;" nor can I quite consent to believe that all the difference is to be attributed to a difference of climate, for after a considerable allowance has been made for the heat and drought of the middle and southern states, there will yet remain a "discrepancy" to be accounted for, to the amount of some hundreds of bushels per acre; and I am inclined to think that much of this arises from the want of properly working and preparing our land before-hand, it being considered that so much labour and expense are not necessary here, as on the lands at the east, with so stern a climate. So we see, according to the old adage, "where God does most for man, man does least, either for God or himself," for we find the best management and the greatest share of health and happiness in a country where man is, emphatically, compelled to eat his bread in the sweat of his face—witness the agriculture of the eastern states, where it has been said, in derision of their small and stony possessions, a farmer is compelled to pasture his sheep by letting them down to feed between the rocks by means of a rope fastened to their hind legs, and holding them in that position, there not being room on their small meadows for more than their mouth and forefeet! And in journeying towards these states I have often observed that the most unkind soil and the wildest portion of the country is always settled the best, and there it has been that I have witnessed the truth of our motto, that "the productions of the earth have always been in proportion to the cultivation bestowed upon it;" and where also surprisingly large crops of potatoes have been raised by *artificial means*, on land the most unsuitable by nature.

Before I came to this country I was much employed in raising potatoes for the market, and believing that some observations which I then made might not be out of season or place, even in a country where it is admitted that soil and climate, as well as circumstances, differ, I will, with your permission, recount a few, in the hope that a portion of them at least might be found applicable, and be made subservient to the purpose of those of our friends who are not yet convinced that "there is nothing more to be learnt in farming." And in this hope, I must first state a fact which I was witness to sometime since. A farmer had brought potatoes to the landing at the foot of Chesnut street on the Delaware, which attracted the notice of the bystanders, to whom he was disposing of them by the bushel at a price not above that of the market, although they were very superior indeed, being remarkably even in their growth, neither large nor small, and particularly free from knobs and scabs; and every one was surprised to hear him say they had not been assorted, but had grown just as he had put them into the baskets for sale, adding, "I never have any large or small, and in a favourable season never less than six hundred bushels per acre, oftentimes more." He was a "Friend," but from what part of the country I did not learn — not, however, from Jersey. To the question, how do you manage to obtain such crops? he replied "I plant in season on well prepared land, keep the crop clean, but never mould up the rows, and that is all my secret in raising potatoes." I was sorry that business called me away at the time, or I should have liked to compare notes with him on a subject which of all others had employed my thoughts, and of which I flatter myself I know a little, and with the hope that he would have had it in his power to teach me more, but I have not since been able to learn his residence.

This is the season, the month of March, in which in England I used to finish all my potatoe planting, both for the middling and late crops, if the weather was favourable; the plants have then time to grow and shade the ground before the extreme heat comes on to

check them; and this one circumstance is oftentimes the cause of securing the crop. The land was prepared by an autumnal ploughing, and sometimes two, when requisite; so that when the furrow came to be turned on to the sets, it mouldered over them like ashes, the dung having been carried on to the land during the frosts of winter, and spread when the season would admit. The business of planting commenced by throwing out a furrow, in which the sets were placed about 14 or 15 inches distant, and then came boys with rakes, pulling in upon them the dung from the land designed for the next two furrows, when the planters again followed, and then the rakers: thus the land was planted in every alternate furrow, in which only the dung was placed. After the field was planted, it was well harrowed, and very carefully spread with a thick coat of lime that had been slaked on the ground by being covered, a basketful in a heap, by throwing a little earth on it, which effected the business in a surprisingly short space of time, and in the most complete manner; and a single flat-hoeing of the weeds, completed the labour until the time of taking up, unless, perhaps, the pulling by hand a few single weeds that might have escaped the operation of the hoe. The crop was generally taken up by the plough, and always proved very superior to those that were planted by any other mode, especially in seasons of drought, when the common system of moulding up, is attended by very *uncommon* injury to the crop. My potatoes were always of a very regular size, with no small and ill-formed roots or small tubers growing to the larger ones, those being occasioned by moulding up the crop while growing, which operation, forcing on another start in vegetation, it expends itself in the formation of small and incipient tubers, to the very great deterioration of the crop and its delay in ripening. I ought to have said, I always selected my seed from the finest potatoes that I could obtain at any price, cutting one eye only to a piece, and planting as soon as cut; and in this way I have raised more than 700 bushels per acre, with far less labour and expense than others have bestowed on crops of less than half that quantity, and of very inferior quality. A good coat of lime spread on the land after planting the potatoes operates surprisingly, first, as destroying the worms and grubs, second, by its antiseptic property, retarding the action of the dung, and preventing it from giving forth its whole powers during the early growth of the crop; preserving it until the time of ripening, when the most of its vigour is required; and, third, in preventing a surface-growth of weeds, which I am convinced that it does in a remarkable manner; and all this is effected by the water which percolates through the surface-soil after every rain. In every way its use is great, but in none more than in the benefit which it yields to the following crop, which ought always to be oats, seeded with clover; my custom being, as soon as the potatoes are removed, to plough up the ground into wide ridges, called reaches, so to lie all winter, and on this surface, without another ploughing, to harrow in the oats, four bushels of seed per acre in February if the season will admit.

I find that some person declares that he has found the largest crops of potatoes to be raised from the stalk-end of the tuber—now this is contrary to all my experience, having always found the best and earliest crops to spring from the *eye-end* of the potatoe—a larger yield and an earlier harvest by two or three weeks; the quality also being very superior. From an experiment which I made with the thin cuttings from the eye-end of the potatoe, taken off while preparing for cooking—the pieces often not larger or much thicker than a twenty-five cent piece—I have raised the best crop that I ever grew, uniform in size and early in growth, the slices weighing at the time of planting 100 pounds, the crop on taking up weighing 2240 pounds.

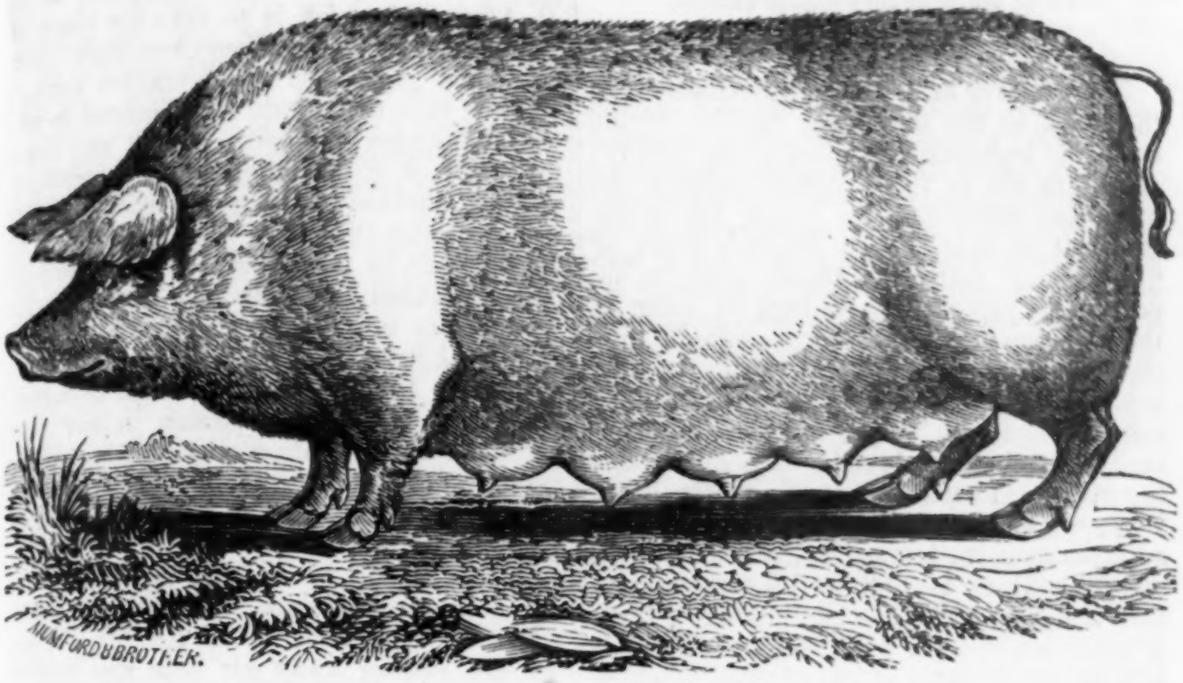
V.

Philadelphia, March 4, 1842.

The Peach-Worm.

"Mr. L. Physick had always observed that on soils containing nitrate and muriate of soda the peach-tree lives luxuriantly to an advanced age, while on soils immediately adjoining, premature decay takes place. This led him to an examination, and the result was a confirmation of his opinion that the effect was produced by the presence of these salts. He therefore commenced experiments with salt and saltpetre, in the year 1836, on a peach-orchard six years old, with the trees full of worms, many of them dead, and but very few with the appearance of health. Clover was sown upon the land that spring, and it remained in grass until last fall, when it was ploughed and sown with wheat. The result is a perfect conviction that the application in the month of March of half a pound of saltpetre and salt, equal parts of each, on the surface of the land, and in contact with the trunk, will not only add new vigour to the growth of the tree, but protect it from the worm, and almost insure a crop of fruit."—*Alb. Cult.*

Agriculture is the commanding interest—nor can all other interests of a secular nature combined, be brought into competition with it.



THE CHESTER AND DELAWARE-COUNTY HOG.

THE above cut is the portrait of a sow of this distinguished and highly valued breed, drawn from life, and engraved by those excellent artists, Mumford and Brother, expressly for our work. The measurement of this fine animal was 6 feet 9 inches long, from the tip of the nose to the root of the tail, and 6 feet in circumference immediately behind the fore legs. Her colour was perfect white, with a softness and silkiness of hair scarcely ever before witnessed, while her great length and depth of carcass, together with a breadth across the back and loins enormous, were such as to satisfy the most craving appetite for monstrous hogs. A sketch was first taken when she was heavy in pig with her fourth litter; in an adjoining pen on the right, was a daughter, second only in size to herself, with a litter of ten pigs, and in that on the left, were her spring litter of pigs, fifteen in number, she having brought up *seventeen*, two having been sent to New Orleans as specimens of the Chester-county white hog, of which so much has been said. But before the sketch could be fully completed, she had farrowed *sixteen pigs*, and her death followed within the space of three or four days of that event. Her very peculiar character and fine points, however, have been traced by the hand of our draftsman with the most perfect exactness, and exhibit a specimen of "a Chester and Delaware-county hog," such as the advocates for that breed might well be proud of. It will readily be perceived that this fine animal was not allied to the *no bone breed*, nay, that she "had a head of her own," as honest John Lawrence says, and that she was able to carry it too; nor was her gigantic carcass supported upon four "spermaceti candles!" her symmetry of form and proportions were *perfectly in keeping*, and it was a fact that when she lay down, she was able to rise without assistance—which could not have been the case with nineteen-twentieths of those we see portrayed, with the assurance that the likeness is perfect. Many of these fine deep-sided, long-bodied white hogs may be met with in the adjoining counties of Pennsylvania, as also in New Jersey; but to those who have been acquainted with the best of that breed, their peculiarities are as marked as the old English breeds—the Berkshire, the Hampshire, the Lancashire, or the Ryswick, none of which, however, ever exhibited a more perfect specimen of what such a hog ought to be, than the individual portrayed above. She was owned by a person named Montgomery, who refused $70 for her and her seventeen pigs the last year, but her progeny was not worthy of her, the sire of the brood having nothing to recommend him but his length of carcass and white colour, and his ability to subsist on almost nothing—a grazier indeed, coarse and heavy in the offal, although boasting of the cognomen "The Great Western!" The character of the old Berkshire and the present Hampshire (see pp. 89, 121 of the Cab. vol. 5, for portraits) is, that the meat when cut up exhibits the same thickness, or very nearly so, on the sides and belly as on the back; producing what is called *streaky bacon* in extraordinary proportion, with the rind by no means thin, but gelatinous, and the whole carcass *cellular*, and remarkably delicate in texture.

To the Editor of the Farmers' Cabinet.

Crack Stock.

Sir,—I have said, it is not necessary that the stock of the improving breeder should consist of high-priced animals of any variety; and I am led to the re-consideration of the important observation, by seeing the advertisement of sale of Col. Jaques's stock of "Cream-pot" cattle, which are made to appear upon paper about as high in value as those of any crack breed whatever, be they short, or long, or middle horns; and yet they are merely the produce of judgment in the selection and care in the rearing, and crossing with our native breeds. There are also the grand red cattle, belonging to Mr. R. T. Potts, which took premiums and won high encomiums at our last agricultural exhibition, and from which he will, by his consummate skill and care in the rearing, produce a stock of cattle which — or I am much mistaken — will far outvie many scores of those of which we see and hear so much, with long pedigrees and heathen names! There is also the cow "Yellow Flower," a common cow of the country, as she is termed by her owner, and which superior animal I was so fortunate as to see some months ago; and the very fine half-breed animal "Queen of Chester," whose portrait is given at p. 25 of the present volume of the Cabinet; as also a cow belonging to Mr. Kenworthy, of Frankford, whose history I will endeavour to procure for your pages on a future occasion — from such stock I am satisfied that a breed of cattle for the dairy might be raised, far superior to a great proportion of those which are sent over to us for no other purpose, it would seem, than to "astonish the natives."

Now there can be no reason in the world why persons should not amuse themselves in any way they may choose, in the very laudable pursuit of rearing fine stock; but I do *protest* against the right of those who have thought proper to commit themselves so deeply in a speculation, which, in my opinion, is sure to deceive their expectation, to *compel* us to believe that none but the breed which they have chosen to lavish their favours upon can be worthy of any consideration; and I am not willing to submit to the opinion, so unceremoniously expressed by them, that a man's judgment in stock must be measured by the length of the horn of his favourite breed, and the euphonious names, which it has been his pleasure to adorn them withal. But thus it is, and there will always be some new thing to urge us on, if it be only to substitute one thing for another — the size and colour of our animals for instance—and then away go the cost of thousands, perhaps, in a twinkling—witness the great *white* hog that has been brought over from England by A. B. Allen, and which is to take the place of the black-and-white Albany humbugs—both small and great — in about another year, a space of time that would have sufficed to settle the disputes of Messrs. Bennet and Lossing, without giving them the necessity of showing themselves up to the public in the way in which they have long been amusing one another, to the edification of those who have expended their hundreds of dollars for white hairs in the tail and three white feet on a *black* hog! But I would fain ask, what *more* need be desired in the shape of a hog, than what we already possess in our own Chester and Delaware-county breeds? Witness the account furnished by Homer Eachus at p. 329, vol. 5, as also at p. 133 of the present volume of the Cabinet. If *less* be required, it is only to cross by means of "one dip" with the Berkshire, and then you have whatever you desire. I tell you, Mr. Editor, we are *fooling* away our time and money by seeking abroad what we already possess at home; it is only for us to have more confidence in our own judgment and exercise it in the way they do in England, and there will be no need of any one going to bring over either white or black hogs, or long or short-horned cattle, any more.

But just as I am writing comes the "Delaware Republican," in which is contained an excellent article touching on this subject, which I am induced to copy for insertion in your very valuable pages, and with which I conclude. Subscriber.

"The cultivation of the soil, in a free country, is the highest and noblest profession in which man can be engaged — as it is the foundation of all true wealth. It is also the solid basis of a nation's greatness. In the vast resources of the soil, commerce finds capital and employment—from the rich granaries of the nation are her manufactures cherished; the mechanic, artisan, and labourer clothed and fed.

"Many plans have been set on foot for the encouragement of agriculture, and mostly by those who have no *practical* knowledge of farming, or the slow and tedious method of cultivating the soil of their country by their own manual labour. The schemes of wealth and improvement set before the honest farmers by these *theoretical* tillers of the soil, are to be found in the management of the five hundred dollar cow with the male that shall cost one thousand dollars, requiring the attention of as many hands to keep them in the high condition they are generally kept, as are required in the management of a moderate sized farm, including the stock. Good stock is a desirable portion of the farmer's wealth — yet the value of the stock by no means

consists in the high price given for the animal. I recollect when one thousand dollars was paid per head for merino sheep, yet no breed of sheep that lived was worth half the money. The farmer of moderate means, should be careful to keep himself clear of the high priced stock, and carefully count the costs of feeding the cow, that is to yield her thirty quarts of milk per day. A little examination into the feeding of these cows, the time required to bring them to an artificial and bloated condition, will satisfy the practical farmer, that if they received the same attention and feed of the best of our domestic stock, the yield in milk or butter would be no more. The man who cultivates his own land, will receive more benefit from a judicious selection of a good common stock, being more easily kept, and from occasional inattentions do not decline so rapidly as that stock which, by forced feeding and attention, makes a much larger show in the eyes of the world. That those who have large means and plenty of hands to attend to the feeding of high-priced cattle, may add largely and beneficially to the stock of this country, I admit, and while it gives amusement to the gentleman farmer, may, no doubt, in his own circle, add something to his profit also; yet, I am decidedly of the opinion that the generality of farmers do much better with good domestic stock."—*American Farmer.*

The "Orchardist's Companion."

We would inform our correspondent, Pomona, that the third number of the "Orchardist's Companion" is published, and may be had by application to the proprietor, Mr. Hoffy, 41 Chesnut St., Philadelphia. The present number contains twelve coloured illustrations of fruit, namely, two grapes, three pears, three apples, two peaches, one plum and one apricot, of most delicious and inviting appearance. The testimonies in commendation of this national work are very numerous and of the highest character, and the proprietor has lately received the silver medal as first prize from the American Institute, New York, with a most flattering notice of the estimation in which the work is held by the public generally—an honour conferred without solicitation or expectation on his part. The price for the best edition is $7 per annum, for the second edition $3 per annum, payable in advance.

In the present number of the "Orchardist," there is a beautiful coloured specimen of the apricot, drawn from nature; the specimen having been furnished by Mr. C. Morris, of Philadelphia, who, in an accompanying letter addressed to the proprietor, remarks, "The tree which produced the fruit, is a graft upon a *plum stock*; my next-door neighbour has a tree growing from a stone of my apricot, which produces an ordinary blue plum, ripening late in the season; the trees are very different in appearance, both in leaf and growth; my apricot ripens the earliest of any of the kind—say, early in July." The anomaly of a tree raised from the seed of the apricot producing plums, has caused much discussion amongst the whole fraternity of horticulturists, and the very idea of the thing is almost universally scouted—"It reminds us," say they, "of the justly exploded doctrine of transmutation of wheat to cheat; and is not to be tolerated for an instant by any one of respectable standing in the profession." We were, a few evenings ago, spending an hour with a most intelligent friend, whose knowledge and experience in the science of horticulture is of long and high standing; while turning over the pages of the present number of the "Orchardist," his attention was drawn to the above circumstance; and being informed that the subject had been viewed with universal skepticism, he replied, "Is there any doubt of the fact as there stated? there need be none, for I have such faith in the thing, that I will venture to say, one out of every six trees raised from the seed of the apricot that has been grafted or budded upon the *plum-stock*, shall, on fruiting, be found to produce a plum; it is a thing perfectly well known to those who have practised the mode of raising the apricot from the stone of the fruit, which stone is precisely in appearance like that of the plum; and very different indeed from that of the peach.* The transmutation may be considered, in a degree, natural, and goes to open afresh, and for future discussion, the interesting question of the *influence of the stock upon the graft.*"

We once resided for several years in the Island of Jersey, England, and were personally acquainted with a gentleman, a Mons. Mallet, whose taste for horticultural pursuits was proverbial; his garden was situated on the south side of the town hill, and there the fruit, of which he was exceedingly proud, attained such a degree of maturity and richness, as to yield, on drying, sufficient saccharine to preserve without the aid of sugar—his plums were even superior to those of the south of France. Amongst the trees which he had raised from seed—a practice which he strongly advocated—was one that had sprung from a peach or apricot stone, which, on fruiting, produced a plum of large size and most delicious flavour and extraordinary appearance; from this tree, which he denominated a *black peach*, he would never allow a graft or bud to be taken; but his friends, who had seen the tree and the fruit, pronounced it a *plum*, nor were they desirous of propagating from it, expecting to be disappointed in the attempt, considering it a chance production, and not likely to perpetuate its kind; every one being satisfied that it had been raised from the seed of a tree that had been worked on a *plum-stock*.

In several of the back numbers of the Cabinet, the influence of the stock upon the graft has been discussed and much interest excited; if the instance above mentioned shall tend to renew the consideration and examination of the important subject, we shall rejoice, and would respectfully offer the pages of the Cabinet as a book of record.—Ed.

Philadelphia, March 1, 1842.

In the year 1809, English grown Spanish wool was sold for 26s. sterling per pound!

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* A friend here remarks, the apricot may very properly be denominated a *plum*.

For the Farmers' Cabinet.

Magnesian Lime.

Having noticed an article in the March number of the Farmers' Cabinet, for 1841, which was extracted from an old report on the agriculture of Scotland; militating most unequivocally against an axiom long since too firmly established, by the experienced and learned practical farmers of this country, to be shaken. The conviction that the *anti-magnesian notion* had come regularly up, and had gone regularly down, for the last half-century, and owed its origin long behind the enlightened age in which we live, induced me to animadvert on the article in question, in a succeeding number of the Cabinet. My strictures having reflected, in some degree, on the Editor's discrimination for publishing an article in such "bad odour" in this part of the world, where every practical farmer has had experience to teach him better,—brought up the following clause, in a note, by the Editor: "The subject will bring forth communications from those of our friends* who, without going back to the time of Dr. Tenant or Dr. Davy, conceive they have had experience of the fact, that magnesian lime has been injurious to their land rather than otherwise." Is the Editor not aware of the fact, that lime, as a fertilizing agent, is now meeting universal favour, and already transcends in importance any one subject connected with agriculture? Is he aware of the vast amount of improvement already effected by it, particularly in Lancaster, Berks and Chester Cos., Pa., and Cecil Co., Md., in parts of which, without lime (humanly speaking) some of the farmers could not live? I now, therefore, propose a very easy and ready way to satisfy demurring minds—'tis this, let it be ascertained whether the lime, which has, as above stated, "worked wonders," is, or is not, magnesian. We, who profess to know, avow that all the *best* lime in use for agricultural purposes, in the above districts, is more or less impregnated with magnesia. In the very districts above named, where the application of lime has long been in full tide of successful experiment, are found as good, if not the best, samples of husbandry and the most productive agriculture in the United States. Within ten square miles in the neighbourhood where I reside, 200,000 bushels of magnesian lime are annually burned, and the quantity is increasing.

The principal reasons why magnesian lime is being more valued in this country and Europe than other lime at present, are substantiated by the array of scientific testimony to be found at pages 339 and 340 of vol. 5 of the Cabinet, from which we may deduce as follows:

1st. In our most fertile soils, carbonate of magnesia is found to be one of the principal constituents.

2d. In magnesian lime we have, by its action, a two-fold advantage, carbonic acid having a greater affinity for lime than magnesia, the lime carbonating almost immediately, while the magnesia retains its causticity, or corrosive alkaline quality, much longer, thus acting more powerfully in destroying undecomposed vegetable matter, than common lime, (or the advocates of the antiseptic doctrine would say, staying or retarding too rapid decomposition) answering either view.

3d. A much smaller quantity of magnesian lime answering the purpose, and the effect more durable.

4th. In common lime the proportion made up by magnesia, in magnesian lime, is supplied, it is ascertained, by sand, flint or silica and other drossy substances entirely useless.

5th. Magnesian lime has less specific gravity, and is composed, when fresh burned, almost entirely of lime and magnesia, frequently less than one per cent. of silica or sand.

6th. Much of the vague conjecturing, prejudicial to magnesian lime, it is believed originated in the unskilled and unpractised hand, which being accustomed to lay on impure common lime in large quantities, without perceptible injury, by applying magnesian lime, in the same quantity, would of course for a time rather injure vegetation, by reason given and explained, No. 2, above; yet, in the end, this same heavy application of magnesian lime, when after having had time to carbonate and yield its causticity, will be *very* efficacious.

The Editor having promised communications from those who conceived they had experienced injury from the use of magnesian lime, has kept me waiting anxiously to learn what ground they would *stand upon*,—would it be fair to apprehend that, like Archimedes, when he undertook to raise the world by a lever, they could find no ground to stand upon? However, without vaunting of the feeble hold, that the advocates on my side may take of the subject, we nevertheless invite the anti-magnesian farmers to come out boldly on this all important subject. Our knowledge extends over four or five counties, embracing about as many thousand square miles, by way of laboratory, so we can of course admit no "two-penny experiment in a garden-pot," according to S. Lewis, in your last number, whom, I am happy to acknowledge as another strong spoke in the great wheel of truth. But really when the period arrives when we who attribute so much of our success in farming to the application of

* Our correspondent has affixed a meaning to the term "friends," which it ought not to be made to bear—he himself is one of our best "friends" and correspondents.—Ed.

magnesian lime, are to be convinced that the very article we so highly prize, as a fertilizer, is *actually* a sterilizer, I may certainly say, in advance, we must first, like Zeno, the famous Stoic Philosopher, deny the laws of motion, and submit tamely to any innovation which may follow.

In the last number of the Cabinet I discover the premonitory symptoms of a redeeming change, the sound article of S. Lewis occupies the front page conspicuously, a place it well merits, and as it is merely a prelude, may his pen not be idle in arresting a prejudice so pregnant with mischief to the farmer's interest. As no one can plead infallibility, I would just refer to the subject of applying putrescent or stable-manure; it will be remembered that to plough under recent stable-manure, with a view to retain the volatile gases, was the favourite idea of the justly esteemed and lamented Judge Buel, who ranked among the most distinguished agriculturists in this country and Europe. Well, mark it *now*, the time is at hand when that very idea must vanish along with other visionary things, and be dispelled by the light of truth. An anomaly indeed to imagine that the volatile gases can be confined among the roots of plants, to be taken up by their spongioles as nourishment: while the denser gases, carbonic acid for instance (which stable-manure generates), a principal constituent and stimulant, in the growth of plants, is of such gravity that it can be poured out upon the earth, and descends into the soil almost with the same facility that water does. Hence the approach of the period when ploughing under the furrow stable-manure, in any state, will be recurred to among the things *which have been.*

W. Penn Kinzer.

Springlawn Farm, Pequea, Feb. 20, 1842.

For the Farmers' Cabinet.

The Cut-Worm.

Mr. Editor,—The remedy for this scourge which your correspondent, Mr. Johnson, at p. 231 of the last number, flatters himself that he has discovered, although he is not prepared to offer any reason for the plan which he has so successfully adopted, is, I think, very easily accounted for, without supposing that the eggs of the fly are carried into the barn with the hay, or that they are destroyed by the scorching rays of the sun on the removal of the crop, but merely by adopting his third supposition, namely, that the fly or bug or beetle or whatever else is the parent of the cut-worm "seeks other fields better adapted to its purpose." Did your correspondent never witness and admire the intelligence and cuteness of the tumble-bug, while collecting from the droppings of cattle materials for the purpose of encasing an egg, which is destined one day to become another bug exactly like itself, to practise the very same contrivance for the perpetuation of his race in which itself was then engaged? In somewhat the same way, I conceive, are the eggs of the cut-worm preserved and provided for, and from hence they emerge when their operations are required, by the universal and unalterable law of nature "in that case made and provided." But where could these animals be furnished with materials fit for their purpose, except in those fields that have been grazed by cattle, and where their droppings have been left? In fields that have been twice mown, none, of course, is to be found, and therefore "the fly seeks those fields better adapted to their purpose."

But I cannot consent to believe that fall-ploughing, when properly performed, is not very effectual in the cure of this "scourge," yet I admit that in the way this operation is generally performed, it will oftentimes be found but of little avail; want of success, arising from the circumstance of the land being turned too shallow, or too deep, or not turned at all, as we often witness—one-half the earth remaining unmoved after the passage of the plough. In the hands of a careful cultivator, I should be willing to commit the question of a "remedy" by a thorough autumnal ploughing, having had opportunity to witness the result of such a course the past season, on a field belonging to Homer Eachus, Edgmont, Del. Co., where one-half the piece having been ploughed before the frosts of winter and the other in the spring, the whole being planted with corn. The difference in regard to the ravages of the cut-worm was very striking, and showed most conclusively the benefit to be derived from fall-ploughing—but it is only common justice to remark, that the work was carefully and effectually performed by one "who had an interest in the soil," which often makes all the difference in the world. Will your correspondent inform us what are the results of his experiments the present season, and oblige, amongst the rest, an anonymous correspondent, who cannot yet bring his mind to appear before the public in propria persona.

C. W.

Feb. 28, 1842.

"What a consummation would it be to witness the establishment of national agricultural establishments by *national funds* devoted to the blessed labours of the field, instead of being wantonly squandered in the perpetration of acts of violence, and the destruction of human life and happiness."

For the Farmers' Cabinet.

Orr's Air-tight Stove.

Mr. Editor,—Having so strongly recommended the air-tight stove, I thought you would *like* to be informed that a terrible explosion has taken place in one of them at Nantucket, which demolished the chimney, and threw the bricks and stove all out into the middle of the room. Now I should be glad to know if you still approve of them? for in this neighbourhood there is considerable alarm felt on the subject, and I rather congratulate myself on delaying the purchase of one—which I had intended from your recommendation—until I hear farther about it. Pray enlighten us, and oblige your subscriber.

J. Dennis.

Hearing an account of the explosion, we made it our business to call on the agent for the sale of the air-tight stove, who informed us he had written to Mr. Abbot, and had received a most satisfactory answer to his inquiries, which, having since appeared in print, we copy, for the information of those who have already purchased or intend to purchase a stove, that, in our estimation, still continues unrivalled. A moment's reflection will convince any one, that the explosion *must* have taken place in the chimney and not in the stove, which, weighing a few pounds only, and very easily removed from its position by a single finger, could not have formed a resistance sufficient to throw out brick-work, iron mantel-bar and wood-work, scattering all over the room; but the writer explains all.—Ed.

"*Explosion from an air-tight stove.*—As the explosion which occurred from an air-tight stove in the house of the subscriber a few days ago, has excited some interest, I send you, for publication in your paper, if you judge it expedient, the following statement of the facts in the case.

The stove was a large one, called the fourteen dollar size. It was set by bricking up the fire-place, and no ventilator was made. At ten o'clock, the evening before the explosion, there being then a glowing fire in the stove, I put in an armful of green walnut wood, and closed entirely both the register and the damper. When I arose the next morning about 6 o'clock, I opened the door of the stove, and could see but little fire, though the wood seemed to be converted almost to charcoal. I left open the door and the damper perhaps three minutes, when the wood became in a light blaze, and the stove in some parts red hot. The funnel, where it entered into the brick-work, had, by repeated contractions and expansions, become loose, leaving quite a crack around the funnel through which I could plainly see the flame from the stove entering the chimney. I then shut the door of the stove, and opened the register, leaving the damper still open. Observing, perhaps in a minute, that the fire was much checked, I again took hold of the door, and had opened it about half an inch, when, with a loud report, truly a fearful explosion took place, *not in the stove, but in the fire-place behind it!* The brick-work was thrown out clear; the iron mantel-bar torn out, and the wood-work around the mantel greatly shattered. The stove was driven two or three feet into the room, and much indented by the bricks which were thrown against it. The bricks and mortar were scattered all over the room. The explosion was unquestionably caused by gas—probably carburetted hydrogen, generated in the stove, and collected behind the brick-work in the fire-place. This gas, when mingled with certain proportions of atmospheric air, possesses great explosive power. If there had been a ventilator in the brick-work near the hearth, the collection of this gas, and the consequent explosion would probably have been prevented. I have now had my stove replaced in its former position, with a ventilator. I cannot reject a friend I value so highly, for a single misdemeanor.

"John S. C. Abbot."

Nantucket, Jan. 15, 1842. [Mer. Journal.

For the Farmers' Cabinet.

Good Example.

Mr. Editor,—Twelve years since, I resided in a district of country which enjoyed superior agricultural advantages in respect to soil, climate, water and wood, and a convenience to the best of markets; still there was a perceptible want, throughout, of enterprise and prosperity among the farmers. Of corn, the average crop seldom exceeded 20 bushels per acre, and that of every other kind of grain was in proportion. Wheat, however, they would seldom attempt to raise, unless upon new land, or that which had been favoured by a scanty supply of manure which their barn-yards annually afforded. Their farms appeared in a slovenly condition, and the several kinds of work were indifferently and unseasonably performed. Their cattle and sheep were entirely destitute of shelter, and left at all seasons exposed to the peltings of the pitiless storm — their houses and outbuildings were, in general, very ordinary, and many of them old and much dilapidated. The best farms in that neighbourhood, had they been exposed to sale at that time, could have been purchased for less than $40 per acre. But "a change came o'er the spirit of my dream." At this day, that same neighbourhood is widely reputed for its excellent farmers, its productive soil, and abundant crops, of which wheat is now the principal, and generally yields from 25 to 30 bushels, fre-

quently 35, and sometimes 40 bushels per acre. Rye, corn, barley and oats are also cultivated to a moderate extent, and with like success. Their old shabby buildings have chiefly given place to new ones, which, by their neat and substantial appearance, indicate the good taste and the good judgment of their proprietors. Do you inquire by what cause, by what miracle, so great a change, so great a reformation, has been effected within so short a time? I answer, all this has been accomplished by the *good example of one good farmer.* The farmer to whom I refer, removed into that neighbourhood in the fall of the year 1830, and undertook, in behalf of a widowed relation, the management of her farm, which contained about 125 acres of arable limestone land. The proceeds of this farm, under its former occupant, had been annually insufficient to pay the expense of its own cultivation and support his family. But its new overseer turned over a new leaf, and that farm is now one of the most productive, and one of the most valuable of any in the township in which it is situated. The first step towards improvement with this man was to dispose of all the poor, old, worn-out cattle and horses which he found on the farm, and supply their places, not by good ones merely, but by the very best he could procure, regardless of the price. The farming utensils from the least to the greatest, underwent a close inspection and a thorough repair. A shelter was provided for his cattle and sheep, and a comfortable pen for his hogs; a lime-kiln was built, and all other necessary improvements were immediately made. In his farming operations there was nothing peculiar, or different from those of his neighbours, except in their seasonable and perfect performance. In the early part of spring his fences were thoroughly repaired; the stones were collected and hauled from the fields designed for mowing, and from other places where they might interfere with the proper cultivation of the land, or prove detrimental to the growing crops. One kiln of lime was burned in the spring and placed on his corn ground, at the rate of 60 bushels to the acre, and another at midsummer, and applied in like quantity to an inverted clover sod, as a preparation for wheat. His corn was planted with care in hills three feet apart each way, and three grains in a hill; it was twice harrowed, twice plastered, twice ploughed, and all at the proper season. A part of his wheat was sown on open fallow, which had received a heavy dressing of manure in the spring, and had been twice ploughed and once harrowed before harvest, and once ploughed afterwards. A part also was sown on clover lay, which had been enriched by ploughing under a luxuriant growth of grass, and which, with the lime applied as before stated, and thoroughly harrowed and incorporated with the soil, always proved an excellent preparation for wheat, and insured a bountiful crop at the ensuing harvest. I need scarcely add, that his crops of every kind were uniformly good, and far surpassed those of his indolent and improvident neighbours, and afforded him a clear profit of more than $1500 a year. But at length his success and increasing prosperity attracted the notice, and excited the emulation of the surrounding farmers, and led them gradually to imitate his example, until finally most of them became good farmers, and many of them superior; and generally they have rendered themselves independent, and enhanced the value of their farms at least 100 per cent. And instead of the sloth, ignorance and poverty which disgraced the agriculture of that region of country a few years since, it is now distinguished for its industry, wealth and intelligence, with every concomitant blessing—all of which is the effect of the GOOD EXAMPLE OF ONE GOOD FARMER.

P. W.

Rural Retreat, Pa., Feb. 23, 1842.

For the Farmers' Cabinet.

Rotation of Crops — Top Dressing.

MR. EDITOR,—Your correspondent, Mr. Mellar, in his article on the rotation of crops, p. 172, Jan. No., says "as soon as the wheat is carried off, plough up the land and *sow* buckwheat, or turnips, or beets." Does he mean to *sow* beet-seed broad-cast? Does he bestow any labour or cultivation after sowing? He also recommends "heavily top-dressing clover during winter and early spring with compost of all kinds," for hay. Does he not find that his cattle do not so readily eat hay made of the grass cut immediately after manuring with barn-yard manure? From the apparent disposition of Mr. M., I think he will cheerfully answer these inquiries if you will communicate them to him through your paper, or in any other way you may think best, and oblige ONE OF YOUR SUBSCRIBERS.

On the receipt of "Subscriber's" letter, we took the opportunity of forwarding it to our correspondent, Mr. Mellar, by the hands of a friend, with a request that he would favour us with a reply—it is here subjoined. —ED.

DEAR SIR,—I herewith return "Subscriber's" letter with a few remarks in answer to his inquiries.

On the removal of the wheat crop, I recommend the sowing of buckwheat, or turnips, or beets, as a second crop: the two first I should not hesitate to broad-cast, but the latter I would drill—the general term *sowing* was used indiscriminately. The cultivation, or after labour, must depend entirely on the

state of the land; a hoeing of the crop of turnips or beets will, I presume, be found requisite, while a sprinkling of plaster would be likely to pay cent per cent the cost.

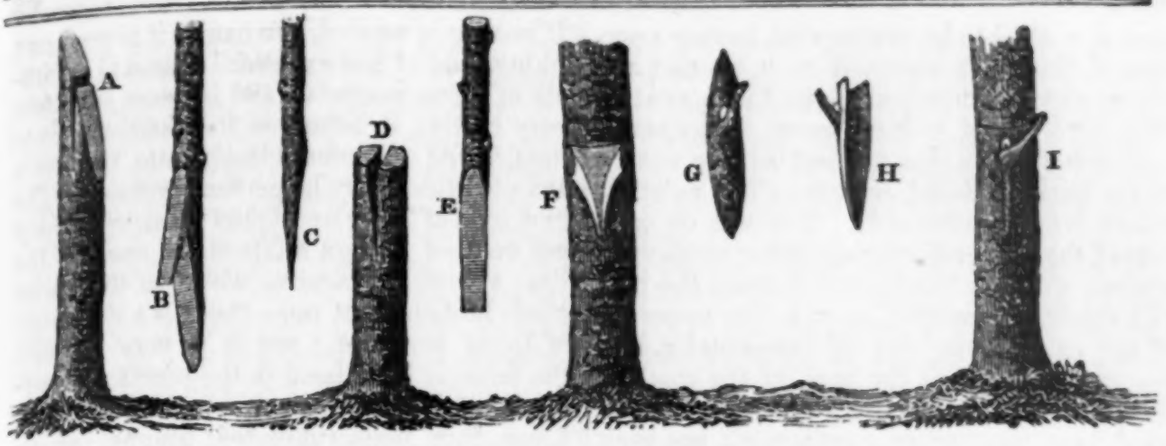
The top-dressing of clover early in the spring I consider the "primum mobile" of the new husbandry, and have never found that cattle do not so readily eat hay made of grass cut after dressing with barn-yard manure, but the contrary; for the growth of grass which is caused by it, does not proceed from the *putricity* of the manure, as "Subscriber" seems to imagine; the influence of air, light and heat, bringing on a state of fermentation, when the impure gases escape by their levity and leave the heavier or pure gases — carbonic gas for instance — to be taken up by the leaves of the plants in respiration, or to be conveyed to their roots in a state of solution, purified and made fit for being taken into circulation. But all this beautiful arrangement of nature is reversed, when *fresh dung is buried* so deep in the earth as that the process of fermentation is prevented or retarded; then it is that the plants are compelled to take into their circulation an impure food, which would no doubt cause the cattle to reject or loathe it; the evil is however remedied, and nothing but good can arise from the application of manure to the surface in top-dressing, whether the dung for that purpose be fresh, partly fermented, or perfectly rotted; but as the old proverb says, "in medio tutissimus ibis" (the middle way is best), I must prefer the middle course, and apply the manure from the compost-heap, after it has undergone a partial fermentation; it would then be fit for immediate operation, and I am convinced that no kind of dressing whatever can be of service to vegetation until fermentation has taken place, by which process the wholesome and injurious gases are separated, and rendered subservient to the laws of nature. The observation of the old farmer, that "no good can come of dung that smells disgustingly," is perfectly correct, for it is a great mistake to suppose that plants would imbibe the nauseous matter if they could avoid it. There is an article on this subject, page 270 of Cab., vol. 5, which goes very fully into the matter; it is there said, "Then comes the question as to the propriety of applying manure to the surface of the earth only, and I am strongly of opinion that it is the carbonic gas which is of service to vegetation, and is destined by its weight to *descend* and perform that office, while the hydrogen, which has possibly been employed in the formation of that or some other necessary ingredient, passes off by its levity, after its presence is no longer required, escaping into the atmosphere to perform again the destined round. And it would in all probability be found injurious rather than otherwise, were any attempt made to confine it *in contact with the plant*, after its necessary office had been fulfilled — according to the theory contained in a paper at p. 134 of the 5th vol. of the Cabinet," as well as in another at p. 86 of the same volume, "and I am led to think very seriously on this theory, from the circumstance of the necessity of waiting until the *poisonous* gas has escaped from a newly-made hot-bed, before any plants or seeds can with safety be consigned to it; and the very observable difference there always is between the *smell* of the gas which rises from a fresh-made hot-bed and that which is evolved after it has become *sweet*, as it is termed, by evaporation," emitting the smell of mushroom, "goes strongly to corroborate the truth of the theory." The paper last mentioned, p. 86, is strikingly in point, accounting at once for the death of the trees in the cherry-orchard in Kent, England, so soon as their roots had penetrated to the dung at the bottom of the trench, where it had been buried so deep as to be out of the influence of *air, light and heat*, by which the purifying process of fermentation had been prevented altogether, and where it therefore lay a poisonous and destructive mass of corruption.

My proposal therefore is, to remove occasionally during the winter the dung from the cattle-yard, placing it in those fields where it may be required; the very act of removal will bring on a state of fermentation just sufficient to purify and render it fit for use; and I have in view at the present moment two heaps of about 500 loads each, which have thus been accumulated during the leisure of winter, convenient for carrying abroad, both as top and corn-dressing, by a person who is setting an example worthy imitation — and all his information has been derived from *book-learning!* his corn-crib exhibiting clearly the value of such kind of knowledge, for nowhere do I see ears so well filled towards the ends—a mark of good management which I always seek for. T. Mellar.

Feb. 22, 1842.

P. S. It would give me sincere pleasure to come into personal contact with "Subscriber" —judging from his hand-writing, such a man would be *worth* knowing.

Wood and Water.—It is estimated that a cord of wood contains, when green, 1,443 lbs. of water. So that a farmer who brings into market a cord of green wood, has no less load for his team, than another who should put on the top of his cord of dry white-oak, *three-quarters of a cord* of seasoned pine, or one hogshead and two barrels of water.—*Brown's Sylva Americana.*



GRAFTING AND BUDDING.

From Affleck's Far. and Gard. Almanac.

Although it is generally better for a farmer to go to a nursery, and there select the young trees he may require, yet every one ought to have a knowledge of grafting and budding—with this view a sketch descriptive of the process has been prepared, and is here offered.

Stocks for grafting or budding are produced either by sowing seed, or from layers, suckers or cuttings; but the stock must be of the same natural family as that to which the graft belongs, or have a close affinity to it. To use others—as the sycamore for the pear and apple, the walnut for the peach, &c.—may do as a matter of amusement or experiment, but can be of no permanent and real advantage. In grafting, mere propagation should not be the only object, for to secure a permanent union between the stock and graft is of far more importance. For apples, seedlings of the apple and the crab. Pears, those of the wild species or of the quince. Plums, seedlings of the common or wild plum. Cherries, seedlings of any free-growing wild variety. Peaches, on the stock raised from seed. The apricot and nectarine, the larger sort of plums. The season for grafting may begin by the middle of March, and continue until the end of April; the grafts being cut into lengths of four or five buds each; the knife to be thin, small and keen-edged. Cut off the head of the stock and the base of the scion at a corresponding angle, so as to form, when put together, a neat splice: the tip of the stock, if larger than the graft, is to be cut off horizontally. Next a slit is made downwards in the centre of the sloping cut in the stock A, and a corresponding slit upwards in the face of the scion B; in applying the scion to the stock, the tongue formed in the base of the former is inserted into the cleft of the latter, and so fitted that the inner bark may unite neatly and exactly on one side; the splice is then tied and covered with clay or waxed bandage. Other methods might be mentioned, but it will suffice for our purpose to include cleft and root grafting; the former being adopted where the stock is much larger than the graft, when the head of the stock is cut off, and a perpendicular slit made, D, the scion being sloped on both sides, C, E, and inserted like a wedge into the cleft of the stock. Root-grafting is performed on a root a little thicker than the graft, and the more fibrous the better; a quantity of them may be procured in the fall, and packed away in sand or earth in a cellar, those from young trees being most desirable; the plan represented at A, B, will answer best, and when grafted they may be packed away in earth in the cellar until the spring, when they may be planted out in nursery rows.

Budding. This mode of propagation is applicable not only to fruit-trees but to ornamental trees and shrubs, including the rose, and there are some fruits that can scarcely be multiplied in any other way. It consists in removing a bud with a portion of the bark from a tree, and inserting it in a slit of the bark of another tree. The season for performing this operation is in July or August, when the buds destined for the following year are completely formed in the axils of the leaves, and when the portion of bark parts freely from the wood beneath; the buds to be preferred being those on the middle of the shoot. There are many forms of budding; but that which is the simplest and most easily performed need alone to be described. The operator should be provided with a budding-knife in which the cutting edge of the blade is rounded off at the point, and having a thin ivory or bone handle, like a paper folder, for raising the bark of the stock. A horizontal or transverse incision is made in the bark, quite down to the wood, and from this incision a perpendicular slit is drawn downwards to the extent of perhaps an inch. The slit has now the resemblance of the letter T, see F; a bud is then cut from the tree

that is wished to be propagated, having a portion of the wood attached to it, so that the whole may be an inch and a half long as at G. The bit of wood is then gently withdrawn, care being taken that the bud adhere wholly to the bark or *shield*, as it is called, as at H, which is the reverse of G. The bark on each side of the perpendicular slit being cautiously opened with the handle of the knife, the butt and shield are inserted, as at I; the upper tip of the shield being cut off horizontally, and brought neatly to fit the bark of the stock at the transverse incision. Slight ties of moistened bass matting or candle-wick are then applied, and in about a month or six weeks these ligatures may be taken away, when, if the operation has been successful, the bud will be fresh and full, and the shield firmly united to the wood; the next spring a strong shoot is thrown out from this bud, and to this the stock is headed down in the course of the summer.

To the Editor of the Farmers' Cabinet.

Lime.

In the last number of the Cabinet, Samuel Lewis has endeavoured to show that the opinion "that magnesian lime is deleterious to vegetation, has no foundation in fact, and is, in short, all a humbug, both as it relates to this country and to Europe." Now I have turned over the pages of the Cabinet, and some publications that have treated the subject more in detail, and on comparing the views of others with my own experience, I have arrived at a different conclusion. That the application of magnesian lime in south-eastern Pennsylvania has had the effect described by S. Lewis, I freely admit, but I do *not* admit that the lime applied without the magnesia would not have had a much better effect. The fact stated by S. Lewis does not prove this point, nor does it prove that magnesia is not deleterious to vegetation, which is the main question. From what is known on this subject, at least as far as my knowledge extends, lime is congenial to the growth of plants, but magnesia is not; if, then, a favourable result follows their application to land in a mixed state, it only shows that the good effects of the lime have not been counteracted by the bad effects of the magnesia. All lime is mixed, more or less, with foreign substances; some are injurious, some are harmless, and others again exert a favourable effect upon vegetation; but in no case can we expect the mixture to be equal in value to the lime, and consequently it must be a drawback upon the profits of the business. Pure lime is the article to buy, and if you cannot get it pure, get it as pure as you can. If mixing is wanted, you can do it to your own liking, and at less expense. Lime is an article of prime necessity, and in most situations very costly; it behooves the farmer then to inquire and examine closely into the kinds and qualities before he makes purchases. The geologist of Maryland found as much as forty per cent. of foreign mixtures in some of the lime around Baltimore, while in the purest kinds he found but ten—there is a difference of thirty per cent.; yet it is very probable the farmers have been in the practice of buying it all at somewhere near the same prices. Lime, thus indiscriminately bought, has improved the soil and enriched the owners, but the knowledge how to avoid those extraneous substances would have added still more to their success, and is certainly no humbug. Just so in Chester county; I have no data at hand from which I can state facts, in relation to the foreign matter in their lime, but there can be no doubt that some of it that comes to our market for sale, contains thirty per cent. of sand, besides other mixtures.* Now we all know that the farmers in Chester county, who use *sandy lime*, make their land rich, and increase their profits; but the operation would be as quickly and more profitably performed, to buy 70 bushels of pure lime and mix it with 30 bushels of sand out of the road, and apply it to the land in the same way they do their lime. Those facts in relation to the qualities of lime were little known or thought of by the farmers 30 years ago; they found that lime improved the soil, but as to the quality, or manner of its application, they knew but little. They generally adopted the Dutchman's rule in its simplicity, without asking *unnecessary* questions, "be sure get lime, and put it on your land." The farmers too in Chester county cherished, for a long time, an inveterate prejudice against book-learning; they looked with pride and self-satisfaction on the hardy yeoman who succeeded better by the dint of physical power, than his neighbour who combined moderate labour with ingenious mental operations; but the present generation in every section of our country, are more inclined to inquire and adopt speculation in their practice where they see probable reason for success. This medium course between the ultraisms of physical and mental power will, if they retain the plain economical habits of their forefathers, produce results in agriculture and in every department of productive industry, that will go far ahead of any thing that has preceded them.

I should not have noticed S. Lewis's article, but I thought it calculated to lead the

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* For a most minute and accurate analysis of several kinds of lime, see Cabinet, vol. 4, p. 308.—Ed.

young and inexperienced farmer astray; for if he does not fairly recommend a preference for magnesian lime, he is certainly very indifferent about the mixture. From long observation upon the effects of lime in tanning, in building, and in the manuring of land, I have discovered a great difference in its qualities, and from recent experiment, I am satisfied that those different results proceed from the foreign substances attached to the lime, and not from any peculiarity in the lime itself. Most of the lime that comes to our market from the great valley of Lancaster and Chester county, is very soluble in water, mixing with it quickly, and forming a substance like milk or cream, and is the best solution known for the preparatory operations of morocco-dressers and tanners of leather. Three bushels of such lime is quite equal to four and a half from the quarries about New Garden and London-grove, in Chester county; but the latter lime is as much superior for *building* as the former is for *tanning*. Bricks laid with this caustic lime set quickly, and it will temper 50 per cent. more sand than the valley lime. But in this kind of lime there is a difference for building, proportioned to the quantity of sand contained in the lime. But for land, I prefer lime as pure as it can be obtained. Within a few years past a great variety of opinions have sprung up about the proper quantity of lime for an acre of land, in order to insure the best success in agriculture. Similar experiments in different countries have produced very different results. In England the experiments are in favour of four, five and six hundred bushels to the acre. In France from 30 to 50. In Chester county the opinion is gaining ground that 50 bushels are as good as 100. An intelligent farmer from that neighbourhood informed me, that a few years ago he limed over one of his fields at the rate of 60 bushels to the acre, and then limed a strip of land across the middle of the field at the rate of 60 bushels more, but he had never been able to obtain any advantage from the additional quantity. On the other hand, some of the New Jersey farmers, who obtain their lime from the Schuylkill, have increased their experiments from 50 bushels to 200 with the most flattering success. But I understand that those experiments have been made with the purest qualities of lime. On this point many of the farmers in Delaware are very particular; one of them informed me, that some of the Schuylkill lime is so impregnated with magnesia that it is not worth buying, and other kinds so pure that you cannot buy too much of it; and this I hold to be the true nature of the case everywhere, as Tillet, Tenant, and other agriculturists have shown in Europe, "that magnesian lime is exceedingly injurious to land." This view of the subject accounts for the entire want of confidence that some people have in the use of lime as a manure; they say it is good for nothing; and having applied more magnesia than lime, it is not only *good* for nothing but *worse* than nothing.

Magnesian lands produce no vegetation: the earths found in soils are mostly silex, clay, lime and magnesia, and where magnesia predominates, the land is always barren. One of my neighbours spread at the rate of 1000 bushels to the acre on his garden, and the produce was exceedingly great and excellent in quality. As for pure lime, I do not know the quantity that would be *injurious* to vegetation. I have seen 400 bushels of it applied to an acre of corn-land, and the rich green colour of the plant, with its great produce, sufficiently indicated the experiment to be in the right course. But as to magnesian lime, I have no doubt of its being deleterious to vegetation, and think it should not be purchased in any case where purer lime can be obtained.

In the fall of 1834 I bought a vessel load of lime from the Schuylkill; it was not subjected to any chemical operation, but it had the appearance and character of a good quality. It was deposited on the field all in one place, where it was intended as a top-dressing for grass. The spring work came on, and the spreading was not finished until the season had considerably advanced. In consequence of this delay, and working at it at intervals it was littered about and trampled into the earth, and the sod not being taken up, a great quantity must have remained on the ground, but it never appeared to have any other effect than to increase the immediate growth of the grass; but I bought, the same winter, 500 bushels of magnesian lime, that destroyed every vestige of grass wherever a load of it was deposited. In 1825 I tried an experiment with unburnt lime of a very pure quality; I ground 60 bushels in an old-fashioned tanner's mill, and spread it on an acre of land across the middle of a corn-field; the effect was visible at a distance by a greener colour, and a more luxuriant growth; it continued in the wheat crop, and for many years after could be seen in a closer and better quality of grass. Lime prepared in this way is very heavy, about 120 pounds to the bushel, and I am not sure but the mode of application is better than to burn it. The carbon that escapes by the action of the fire has to be returned to the earth, before it is useful to vegetation, but whether the ground-lime will attract as much ammonia from the atmosphere as the burnt lime, is a question I am unable to solve. The effect produced by the ground lime was very great, for the sam-

ple I tried the experiment with was imperfectly pulverized; I cannot suppose that more than half the quantity acted on the soil.

Upon the whole, I conclude, we have much to learn on the subject of lime. I am aware that the productive properties of the land are so influenced by various causes, that no plan can be adopted independent of experiment, but there are few cases in which the labour of analyzing the soil and the manures we apply to it would not be repaid, and therefore I am opposed to this "silent, unostentatious practice of knocking theory on the head."

B. Webb.

Wilmington, Del., 2d mo. 26, 1842.

For the Farmers' Cabinet.

Rotation of Crops.

A proper *rotation of crops*, *thorough culture*, and *adequate manuring*, are the three great points for which every intelligent farmer should strive. In regard to the first, it is admitted by all scientific farmers that the present, common, and almost universal rotation of corn, oats and wheat in annual succession, without any intervening grass, or root crop, is bad husbandry, and tends to impoverish the soil or keep it in a low condition, unless there is much meadow ground to furnish nutriment for stock, or that manure of some kind is derived from an extraneous source. A consequence of this rotation is, that the winter's manure remains during the summer season in the barn-yard exposed to great waste, and the benefit which ought to be derived from it during that period is entirely lost. The carbonic acid gas, which is the product of putrefaction, and is the principal food of plants, is dissipated and lost; for it cannot be conveyed to the crops in the fields after it formed, but ought to be developed on the spot where it is intended to be effective in promoting the growth of plants. I have met with a few very successful farmers recently, who inform me, that in order to secure the greatest effect from their stable-manure, and at the same time to separate two exhausting grain crops by a crop of grass, they sow clover-seed plentifully with their oats, and the following spring top-dress the clover with their winter's manure. This uniformly produces a very abundant crop of grass, which is pastured in moderation, and early in the autumn is ploughed down, and after due preparation sowed with wheat. This is then laid down with grass in the usual way for mowing-ground, and the next season serves for pasture alternately with the top-dressed clover-field. The following season corn is planted on the sod, which is followed with oats and clover manured on the surface—then wheat, grass to mow, followed by pasture, and so on round.

This course requires six fields, three in grain and three in grass, and it is believed that each will produce much more grain or grass annually, than when one-fifth of the arable land is farmed annually as is usually the case, and that the land will, under good management, be rapidly improved; and no person deserves the name of "good farmer," whose soil is not in a state of progressive improvement, furnishing a larger and larger return annually for the labour and expense bestowed upon it.

The theory of the application of plaster of Paris recently promulgated by the celebrated Leibeg, corresponds with the practice of J. Taylor, of Virginia, who, more than 30 years since, stated in an essay written by him, and published in the Arator, that he always derived the greatest benefit from plaster when he applied it directly *on* the manure. On this principle it would be well, on top-dressing with stable-manure, to sow plaster immediately over it to fix the ammonia, as the German chemist recommends. Of the immense quantity of carbonic acid gas developed during the decomposition of a "dung-hill" in the summer season, every ounce is lost, never to be reclaimed again; whereas if this same manure was spread over a crop of clover early in the spring (and it might be hauled out in the winter as it is made), every portion of this most valuable gas, which is much heavier than the atmosphere, would be formed where its services were most needed, and washed to the absorbing fibres of the roots of the plants by the descending rains.

Agricola.

For the Farmers' Cabinet.

The Garden.

The month of March affords most ample employment for the industrious gardener, the utmost diligence to embrace the earliest season for operations being of paramount importance. By the early sowing and planting of crops, much of the ill effects of drought might be obviated, as by their growth they will have advanced so as to shade and protect the land by the time the hot weather arrives; this, and the constant stirring of the soil between the rows, have oftentimes saved whole crops during a season of drought, while those immediately adjoining, late sown and ill attended, have totally failed. Additional security will arise from a top-dressing of composted manure, a mode of management which is destined to become universal. In the course of this month every thing should be forwarded relative to the cultivation and preparation of the ground, by levelling, trenching, dig-

ging, &c. in order to a general sowing and planting at the latter end of the present, or the early part of the next month. Plants in pots should now be encouraged in growth by a removal into fresh mould and frequent slight watering, admitting the sun and air at all suitable opportunities. Many species and varieties of seeds may now be sown in hot-beds, which will astonishingly expedite the business of the season. This being the best time also to prune grape-vines, selecting a full supply of last year's shoots for bearing the present summer, shortening each to three or four eyes, in proportion to their strength. Prune apples, pears, and other fruit trees, with currant, gooseberry and raspberry bushes, planting the cuttings and suckers of the former in a shady border. Sow fruit-stones and kernels of the different varieties of fruit, and keep all clear of weeds by flat-hoeing, never moulding up any crop whatever, not even the potatoe: and this is the best time for planting full crops of that most valuable and inestimable root, the *universal potatoe*, it being advisable to use the fairest and most perfect roots for seed, one eye in each piece being then ample. The large crops of which we so frequently hear, owe their full maturity to early planting, by which their growth is accelerated so as to cover and overshadow the ground, and form a shelter from the scorching rays of the sun—a consideration of the highest importance, particularly in the climates of the middle and southern states; and to this might probably be attributed a difference in yield amounting to one-half the crop. In countries in Europe noted for large crops of potatoes, it is customary to finish the planting of the main crops in March, no danger being to be apprehended from a too early planting, although frosts often destroy the first shoots.

It is important to have the land in condition for an early sowing and planting, even at the risk of losing a little seed; a light, sandy soil being benefited by working when moist, but a clay soil or stiff loam, when worked wet, kneads like dough, and is sure to bind in dry weather; this prevents the seeds from rising, and injures the plants in their subsequent growth, the land becoming impervious to moderate rains, dews, the air and influence of the sun—all which are necessary to the promotion of vegetation. Some writers recommend certain *fixed days* for sowing and planting, but to this very circumstance is oftentimes to be attributed the failure of the crops, for if the seeds are deposited when the ground is wet and cold, they will become chilled, and the germinative part will be destroyed; while in very dry weather—maugre the *moon's* influence — the influence of the *sun* will soon put an end to all that, depend upon it. E.

For the Farmers' Cabinet.

Good Farming and Good Hogs.

Mr. Editor,—I am glad to see that a correspondent, in the last Cabinet, has taken up the subject of Berkshire pigs. There has been quite too much sneering and ridicule thrown out against this invaluable breed of swine, where the real cause has been, not that Berkshire pigs were inferior, and did not come up to what their friends had claimed for them, but that those whose business it was to sell them, had begun to quarrel about whose stock was the best. In listening to these interested disputes, the public have lost sight of the true question, which I conceive to be this: Is not the Berkshire hog, all things considered, by far the best breed ever introduced into the country?

Your correspondent P. M. presents the question in its proper light, when he contends that the Berkshires *return the greatest weight for the quantity fed.* There can be no doubt he is perfectly correct, for a wide experience in this country has proved it to be so. Warner M. Yates, of Tennessee, has now two Berkshire pigs, one of which, at two months old, weighed 106 lbs.; the other, at three months, weighed 107 lbs. G. B. Gunter, of Nashville, has a pig which at five months old weighed 202 lbs. This pig was fed with no other object than that of making him a fine animal. A Berkshire pig, the property of James F. Taylor, of Kentucky, fed last year, actually gained 21 lbs. in ten days' feeding. Mr. Yates's pig, mentioned above, gained 28 lbs. in the twelve days preceding the day it was two months old. But these illustrations of the superior value of the Berkshires could be multiplied interminably. They come, too, from responsible sources, from men of as high character, and strict integrity, as any in the country—who have no interest whatever in selling pigs. Now where is the other breed of hogs from which such great and constantly recurring results are to be obtained? I do not wish to undervalue other races, but as to the *common breed* of our country, intelligent farmers have long since satisfied themselves there is no money to be realized from raising them. The exquisite symmetry of a fine Berkshire hog, will immediately strike the eye of the commonest man. Their delicately formed heads, their short legs, and the fine, *long*, *round*, *deep* barrel, ending in a ham that a Mohammedan would be ravished to behold, all place this splendid breed of animals at the very head of the whole race. In Ohio, Kentucky, Indiana, and the other great pork-producing states, they are preferred before all others, and although throughout the south and west they cannot be purchased under thirty to forty dollars per pair (such is

the increasing demand for them), yet they are superseding the old breed with the new Berkshire cross as rapidly as they can be propagated.

The injustice of these sneers at Berkshires has been presented forcibly to my mind by a recent visit to the farm of Benjamin W. Cooper, near Camden, N. J. Go there Mr. Editor, and you too will be delighted at looking after some of the finest Berkshire pigs that even your experienced eyes have ever gazed upon. Mr. Cooper takes a noble pride in having the best of every thing that can be got. One Berkshire sow, whose parents were both imported, has now a litter of ten pigs, finer than which I never beheld. He has a Berkshire boar, which is now twenty-one months old, and he thinks but little feeding would be required to make him weigh nearly 500 lbs. He is a noble, although rough-looking animal, yet his pigs are models of all a fastidious farmer could desire. Another sow could as easily be made to weigh 400 lbs; and you cannot inspect his numerous stock of swine—for he has two other litters of remarkably sprightly Berkshires — without admiring, not only the stock, but the taste and judgment, as well as the politeness and urbanity of the proprietor. Besides these charms in farmers' eyes, you look around on his ample fields, stretching peacefully down to the margin of the Delaware, and giving ample token, turn where you may, of good farming. His spacious barns, before which extends a cattle-yard, in whose boundaries he manufactures manure by the *hundred* loads, and in which you see a large collection of the mixed Durham blood—his beautiful flock of Bremen geese, of enormous size, and with plumage of snowy whiteness — his multitude of poultry, celebrated as growing to a great weight, and being first-rate layers, with much else that my limits (and yours) forbid my adding, indicate this gentleman to know pretty well what good farming is. Were you to inspect his premises and his stock minutely, I cannot but believe you would unite in my encomiums. Your intelligent correspondent P. M. would be gratified in spending, as I did, an hour in the same pleasing occupation. Pavonia.

Feb. 28, 1842.

For the Farmers' Cabinet.

The Potatoe.

Mr. Editor,—It is perhaps not generally known to the subscribers of the Farmers' Cabinet, that in the potatoe there are two parts, which, if separated and planted at the same time, one will produce tubers fit for the table eight or ten days earlier than the other. This fact has fallen under my own observation, and is the plan I now pursue in order to obtain an early supply for my table, fine and very mealy. The apex or small end of the potatoe, which is generally full of eyes, is that part that produces the earliest — the middle or body of the potatoe produces later, and always large ones. The butt or navel end is worthless, except for feeding stock, and, if planted, produces very indifferent small ones, and often none at all, the eyes, if any, being imperfectly formed. The potatoe being cut two weeks before planted, and spread on a floor, that the wounds may heal, separating the small end from the middle, then cutting off the navel or butt, the body or middle of the potatoe is then divided into two pieces lengthwise, taking care to have always the largest and finest selected, being convinced that if none but large potatoes are planted, large ones will be again produced—small things produce small things again, and therefore no small potatoes should be planted; this practice is too prevalent, and may account for the many varieties and small potatoes met with in our markets. Who would not prefer a large mealy potatoe to a small one, that will take hours to boil soft, and then may only be fit to feed the cattle with?

For several years past I have adopted the plan of putting potatoes into the ground late in the fall, covering them with manure, sometimes with tanners' waste bark, and always have succeeded in raising a fine early crop. Last fall I had taken up some as fine and large Mercer potatoes as any one could wish; they were covered with tan six inches thick the preceding fall; many weighed sixteen ounces. No particular care or attention was bestowed upon them through the summer, the tan not permitting any weeds to trouble them, or to draw out the nourishment from the earth, they had therefore all the benefit of the soil, kept moist and clean by the tan, for tan will keep the ground moist and clean, and in an improved state in the driest season. I have found the great advantage of it to my asparagus and strawberry beds, which are annually covered with it.

The potatoe I consider so valuable and indispensable a vegetable, and having never seen a suggestion in print of separating the potatoe and planting each by itself,* that I have been induced to send you this imperfect and hastily drawn up communication. Perhaps you may think it worthy a place in the Farmer's Cabinet, and if so, should be pleased to hear that some of its patrons will try the experiment of planting separately each part of the tuber, believing that the potatoe may be much improved by a due regard to the above suggestions. J. F. H.

Lancaster, Feb. 26, 1842.

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* At p. 132 of the Cab., vol. 5, our correspondent will find this subject particularly treated. Ed.

For the Farmers' Cabinet.

Magnesian Lime.

Mr. Editor,—I was much amused with our friend S. Lewis's article on lime; for as far as I can learn, such an opinion is entirely new in this part of Pennsylvania. He seems to think, if I understand him rightly, that magnesian lime is quite as good for land as that which has no magnesia in it. And to prove it he cites the practice of farmers in the south-east part of Pennsylvania; but I think he is mistaken with regard to them.

South-east Pennsylvania is large I know, so I do not answer for the whole of it, but only for the part in which I live: it is in the midst of limestone, and not very far from the Great Valley; and it is the general opinion of this part, and founded on sound experience, that magnesian lime in large quantities is very injurious to land: some of our graziers would not allow it to be spread on their land free of cost; but I think they go too far, for with the present mode of applying lime (100 bushels at three coats), it does not make so much difference.

One field on my place was limed with about 300 bushels to the acre at one coat, five years ago, with lime from J. Pyle's quarries, which, upon examination, proves to have very little if any magnesia in it; the last summer I cut near two tons of grass (green grass, timothy and clover) to the acre from part of it. A friend of mine, who lives not far from here, limed one of his fields six or seven years ago with about 75 bushels to the acre, from another quarry, which, when examined, was found to contain, if I remember rightly, from 15 to 25 parts of magnesia; the consequence is, he has never had a crop of any kind on it since, until this last summer, when it was farmed for corn. S. Lewis also says, "he does not wish to be understood that he imputes all of the improvement here to the use of lime," in which he is right, for without our manure from our cattle, &c., our farms would not be what they are. His expression of "whatever part of this improvement is owing to lime, is owing to magnesian lime, and none other," is too strong entirely; for the opinion and experience of this part of south-east Pennsylvania is quite the contrary. I do not wish to dampen the ardour of any young farmer with regard to liming, for as I said before, 33⅓ bushels of lime is now considered sufficient to the acre at one coat; and I do not think in the above quantity there would be enough magnesia to occasion any serious drawback. Now I hope that neither thee, nor any of thy readers, will think of me as one of the "would be oracles of the day," *for I can assure you all, I have no wish to be considered anything of the kind.* But if any of thy readers should be out-argued by any such, let them be careful where they point.

There is an old saying in *these diggings*, that lime, when used properly, "if it puts the farmer in jail, it will bring him out again."

C. Taylor.

Spring Hills, London Grove, Chester Co., Pa.

To the Editor of the Farmers' Cabinet.

Sulphate of Lime.

Sir,—Having read with much pleasure two articles in the Cabinet, vol. 5, pp. 378 and 382, on plaster saturated with urine, and being anxious to try it on corn, I take the liberty to ask, what quantity will be sufficient for each hill, on a poor sandy loam, which has been a long time untilled, and is incumbent on a porous subsoil. I also purpose applying it exclusively to a drill or two of early potatoes, but would like to know how much ought to be given to each set.

I feel much obliged, as no doubt many others are also, to your correspondent E. T., for his very valuable article on potatoe planting. But it appears to me he has forgotten two things, the precise time for planting, a subject on which I find some diversity of opinion, and the depth of soil to be laid on the sets. If my memory serves me, a Mr. Murphy of Connecticut says 7 or 8 inches; and, as E. T. says, no earthing up in the after culture. All to be put on in the beginning. As E. T. seems to be acquainted with Gen. Barnum's mode of planting, perhaps he will be kind enough to furnish it in detail through the Cabinet to your numerous readers. Georgos.

Harford Co., Md., Feb. 11, 1842.

Notice.

PHILADELPHIA AGRICULTURAL SOCIETY.

Notice to competitors for premiums on crops for the year 1842.

Competitors must apply to the committee at least one month previous to housing their crops. They must furnish the committee with an account of the manner of cultivation; kind and quantity of manure applied; a description of the soil, and expense or amount of labour bestowed on each crop. They must also furnish satisfactory certified evidence of the quantity produced per acre. Competition is limited to Pennsylvania, and a distance within 20 miles of the city. The committee will withhold premiums, when those offered for competition are not deemed worthy of distinction.

PREMIUMS.

For the best 5 acres of wheat,	$10
For the next best 5 do.	5
For the best 3 acres of rye,	10
For the next best 3 do.	5
For the best 2 acres of potatoes,	10
For the next best 2 do.	5
For the best 1 acre of sugar-beets,	10
For the next best 1 do.	5
For the best 1 acre of ruta-baga or field turnips,	10
For the next best 1 do.	5
For the best ¼ acre of carrots,	8
For the next best ¼ do,	4
For the best ¼ acre of parsneps,	6
For the next best ¼ do.	3
For the best 5 acres of Indian-corn,	10
For the next best 5 do.	5

Aaron Clement,
J. W. Roberts,
Henry Chorley,
} Com. on Crops.

Notices.

While the publishers of the Farmers' Cabinet acknowledge the punctuality of many of their subscribers in paying for it, as the terms prescribe, in advance, they feel obliged to remind others, that although more than half the numbers of the 6th volume are issued, it still remains unpaid for. Not a few are in arrears also for the 5th volume. The amount to individuals is small:—the paper is published at a heavy expense. A large subscription list, and prompt payments, are therefore essential to sustain it. Those connected with the publication flatter themselves that they "have done the state some service," in throwing before the public a large amount of valuable agricultural information: they think their paper may fairly put in a claim to a full share of the consideration attached to many others of similar character, which are throwing, broad-cast over our land, the benefits resulting from the intelligence and the experience of our whole farming population. They believe it important to the community, that their labours and their wishes may not be frustrated, by neglect on the part of any of their subscribers. Remittances for subscriptions may at any time be made, by mail, through the kindness of post-masters, who are at liberty to frank them. Where subscribers wish to discontinue at the close of a volume, it is particularly desirable that early information be communicated to this office.

To the Editor of the Farmers' Cabinet.

Dear Sir,—According to the suggestions of your correspondent W., expressed in the Cabinet for November last, I have had constructed at our manufactory, a Centre-Draught Sod C Plough, with longer and straighter handles, and a longer beam; the point of the share also projecting before the coulter, &c. It has arrived at our Implement and Seed Store, No. 176 Market St., and is accompanied by a subsoil-plough suited to the draught of a pair of horses; both having been made expressly for the trial to be given under the auspices of the Philadelphia Agricultural Society, and they are here awaiting their arrangements.

We have also received a new and very superior assortment of field seeds, amongst the rest, the new and splendid variety of purple-top ruta-baga, of which mention is made in the Cabinet for December, as having been grown of very large size by Dr. George Uhler, and exhibited at your office; which we strongly recommend to the notice of our agricultural and horticultural friends. D. O. Prouty.

Mr. Isaac Newton, of Delaware county, has deposited at our office, a cut of remarkably fine fat mutton, of the Bakewell and South-Down cross, which shows very distinctly the value of an union of these justly celebrated breeds of sheep, whether it be on account of the wool or the meat, the former being augmented to the amount of at least one-half the weight, without a correspondent deterioration of quality, it still yielding a staple fit for clothing, the meat also being of superior quality and in much larger quantity.

Just published, price $1, and may be had of Kimber and Sharpless, proprietors of the Farmers' Cabinet, "Lectures on the application of Chemistry and Geology to Agriculture, by J. F. W. Johnson, Professor of Chemistry and Geology in the University of Durham." These lectures were delivered before a society of *practical* agriculturists, and are addressed, not to the philosopher, but to the *tiller of the soil;* they are therefore compiled in the most familiar manner, without unnecessary technical terms, and none are used unless explained. The author says, "That art on which a thousand millions of men are dependent for their very sustenance—in the prosecution of which nine-tenths of the fixed capital of all civilized nations is embarked, and 200 millions of men expend their daily toil—that art must confessedly be the most important of all, the parent and precursor of all other arts." The work, of which the present publication forms the first part only, is destined to become extremely popular, and is exactly suited to the present enlightened state of agricultural society; it will form the text-book of the Farmer's Library.

In a few days will be published by Thomas, Cowperthwait and Co., Phila., price 50 cents, "The Farmers' Land Measurer or Pocket Companion, showing at one view the content of any piece of land from dimensions taken in yards; to which is added a set of useful tables relating to the business of agriculture, husbandry and rural affairs:" prepared for the press by James Pedder, Editor of the Farmers' Cabinet.

Contents.—Introduction to the Measurement of Land.
First table for measuring land, from 1 to 500 yards.
Second table showing the width required for an acre.
Tables for manuring land.
Table of planting distances.
Table for ploughing.
Overseer's account of time.
Measurement of Corn in the crib—right angle.
Span level for draining.
The imperial bushel table.
Measurement of live stock.

The Editor, desirous of furnishing the subscribers and friends of the Cabinet, and agriculturists generally, with a concise and easy mode of measuring their own land, and computing its contents, by means of many hundred ready-worked tables, offers this little manual with the most perfect confidence, it having been his constant "companion" during many years of practical experience. It is printed, and bound in leather, in a shape fitted for the side-pocket of the farmer, who will soon find that he never ought to be without it.

The quantity of rain which fell during the 2d month (February), 1842, was ..... 4¼ inches.

Pennsylvania Hospital, 3d mo. 1, 1842.

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